NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. Boston, September, 1867. VOL. I.---NO. 9.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. MONTHLY. SIMON BROWN, S. FLETCHER, } EDITORS.

SEPTEMBER.

"Sweet is the voice that calls
From babbling waterfalls
In meadows where the downy seeds are flying;
And soft the breezes blow,
And eddying come and go
In faded gardens where the rose is dying."

SEPTEMBER, once more, in the never-ceasing march of the seasons, calls upon us this year for the exercise of all our powers of industry and skill, to gather up and secure for future use the abundant crops of our fruitful soils.

Never before, it seems to us, have the trees and all large plants been so clothed with a dense, high-colored and vigorous foliage, while the face of the earth is covered, almost beyond precedent, with all crops common to the season. Timely and copious rains, warmed by genial suns, have percolated the soil in all her pores, found the minerals there which plants require for a full development of their parts, and

"Thrust blooming thence the vegetable world."

In addition to the abundant hay-harvest of June and July, the "aftermath," "rowen," or second crop of August, has been so abundant as scarcely to find room in the already crowded barns.

The Indian corn has a luxuriant growth of leaf and stem, is a little late, and if spared by frosts, and if properly secured, will add largely to the aggregate value of next winter's fodder.

The root crops, also, have a redundant foliage, which is greatly relished by all the farm stock. All these are prime sources of milk, butter, cheese, beef, mutton, &c., and if carefully husbanded, will materially swell the profits of the farm.

The impression with some is that the price of hay will be low during the next six months. There are some reasons why it may not be. At the commencement of the present haying season, scarcely ten tons of old hay could be found in any one of our best farming towns. All the poorer kinds of fodder had been economized, chopped, grain added to it, and fed out in order to send the best hay to market, and get from $35 to $50 per ton for it! This state of things extended far into the country, where the best hay was pressed and sent forward, and the poorer used at home. Before June came, the barns in nearly all parts of New England were empty as they had not been before for many years.

In addition to this, the demands of our vast armies during the war had swept off our beef cattle to an unparalleled extent, and horses in a still larger proportion, so that most of the farms in the country had scarcely more than one-half the stock they had been in the habit of feeding.

Now, farmers are purchasers. They care to sell only those animals that happen to be in excellent condition for market, and those which they are fatting on account of age, because they are poor milkers, or for some other cause.

These opinions are held by most farmers and will have a decided influence in keeping up the price of hay. To these may be added another, that so long as the prices of labor, building materials, clothing, grain, groceries, &c., are high, hay, also, will be high.

Some signs of rot have been found in the potato crop. The breadth of ground occupied with this indispensable vegetable is large, and the growth luxuriant.

The apple crop is light, very light, but still there are many trees having fruit upon them that will be quite fair and of good size. Several varieties of sweet apples, the Rhode Island Greening, and Porter, have moderate crops upon their trees. Scarcely a Baldwin tree is in fruit, so that all that pretty poetry about their red cheeks glistening in the sun, may well give place to a little that will make us careful how we collect what does grow:

"Fruit gathered too timely will taste of the wood,
Will shrink and be bitter, and seldom prove good:
So fruit that is shaken, and beat off a tree,
With bruising in falling, soon faulty will be."

On the whole, farm affairs are promising. Some apples, glistening in the sun this morning. We shall have peaches, pears, and plenty of preserved small fruits.

WORK FOR SEPTEMBER.

Wheat. If not put in last month, early in this is better than to postpone it entirely. It needs a rather stiff clay loam, and on such a soil that is in fair condition, the crop will rarely fail.

The Rye crop we have spoken of in another article.

Turnips. Thin out and weed the turnips; keep the soil loose about them.

Strawberry plants may be set early in this month; and if carefully tended and slightly covered with straw in November, will make a good start.

Fattening Animals. It is better to begin to feed swine liberally now, than to postpone it to a later day. Whatever the animals are, feed plentifully, and make them comfortable in their yards and sleeping rooms, and they will gain faster than they will in cold weather. They prefer a *variety* of food, and will do better upon it, than they will if confined to a single article, even though some portion of the variety be of a poor quality.

Peat. Spare no reasonable cost to lay up a large quantity of this valuable fertilizer. Remember that "Muck is the mother of the meal chest." We urge the use of peat by the farmer with more emphasis than almost any other point. We *know* its value by the experience had with it for many years. It is useful on *all* lands—light or heavy. We have restored exhausted, heavy clay loams with it, as well as to bring life and vitality to barren sands and gravelly knolls! Our own experience is corroborated by that of many successful farmers, and by the intelligent attention given the subject by those who have ascertained its value by actual use in the soil and by critical analysis.

Among the latter is Prof. Samuel W. Johnson, the chemist of the Connecticut State Agricultural Society. He says *the characters that adapt peat for agricultural uses*, are

Those which render it useful in improving the texture and other physical characters of the soil, and indirectly contribute to the nourishment of crops, and

Those which make it a direct fertilizer. As an amendment, the value of peat depends upon,

1. Its remarkable power of absorbing and retaining water, both as a liquid and as vapor.
2. Its power of absorbing ammonia.
3. Its action in modifying the decay of organic (animal and vegetable) bodies.
4. Its effects in promoting the disintegration and solution of mineral matters, (the stony matters of the soil;) and
5. Its influence on the temperature of the soil.

These are vital points of interest to every cultivator of the soil. Peat actually *assists* in dissolving sand, gravel, and the rocks themselves, and liberating their potash and other valuable minerals for the nutrition of plants.

There is no other possible way in which New England farming can be made so profitable as by the use of large quantities of peat. We can only speak of the subject in this brief way at present, but will take early opportunity to lay more of the Professor's clear and concise facts on the subject before the reader. We wish his whole work could be in the hands of every intelligent and progressive farmer. Do not delay the work until it is too late.

Seeding Land to Grass. Early in Sep-

tember is a good time for this work, but not quite as favorable as in August. Where the object is to keep land in grass, rather than in hoed crops, the sward may be turned over and seeded directly with perfect success, if the work is properly done.

Very many other things belong to September work which the *systematic* farmer will not neglect.

A WINTER RYE CROP.

"Thresh seed, and to fanning, *September* doth cry,
Get plough to the field, and be *sowing of rye*;
To harrow the ridges, ere ever ye strike*;
Is one piece of husbandry *the farmer* doth like."

One of the most important items of farm work for Septemper is *to get in the rye crop*. Some persons do it late in August, but it is generally done in September. We say it is an important work, because we believe that *ten times* as much rye flour ought to be used in the family as there now is—and the same amount of bleached, bewitched and highly-manufactured wheat flour discontinued. No sweeter or better bread ever passes our lips than that made of rye flour. In warm biscuit for breakfast it is unsurpassed, and for invalids, a pudding made of it is grateful to the taste, easy of digestion and nutritious. It has a remarkable muscle-making power.

Rye is adapted to nearly all our sandy lands, —the pine plain lands which exist all over New England. Such land is easily worked, and when generously treated gives bountiful returns of this valuable crop. The richer the land, however, the more vigorous and luxuriant the crop will be. It is the only grain, we believe, that will flourish on land that contains eighty-five parts in a hundred of sand. It is a common practice to crop rich land until it is exhausted, and then let it repose for some years, when it will collect sufficient nutrition to enable it to bear a crop of rye, which, however, will be likely to be a poor one. Would it not be better,—would there not be a larger amount of grain secured, by cultivating less land, and manuring it a little, and thus save the labor of plowing and working so much?

Early-sown rye may be fed, says the *Country Gentleman*, with sheep or calves, during the month of November, with great benefit to the stock, and if the growth is large, with decided benefit to the crop, as a large quantity of herbage, lying on the ground in the winter, renders the crop liable to be "smothered," as it is called, especially if it is covered long with snow. No injury results from feeding rye with sheep or light cattle, any time in winter, except when the ground is so soft that it would be "poached," and the roots of the rye be broken, and there is no food better for such animals."

Spring rye and *winter* rye, are not distinguished by any botanical characteristics, but simply by a property which has been artificially communicated to it, and of which it may be deprived by a change in the mode of cultivation; viz., that of coming more quickly to ear. Spring wheat is often made to become autumnal or winter wheat. Winter rye has some properties peculiar to itself; it remains longer in the ground than spring rye, grows more bushy, and does not put forth its stems or seed stalks until late in the season.

Winter rye, sown in the spring for several successive seasons would probably acquire all the characteristics of a spring rye, and *vice versa*. It would be the same with wheat.

Early in September—the earlier the better —is a good time to get in a crop of rye. Its use as food for the table is becoming more *fashionable*, and it will tend to health and activity. It is cheaper than wheat flour, and the straw is always in quick demand at high prices; besides these recommendations, it is one of the *surest* crops we can cultivate. Get in the rye crop, then, on land that has not been exhausted, and as much profit from it will be realized as from any of the green crops of the farm.

**Striking* is the last plowing before the seed is sown, and the poet wants the ridges harrowed down before that plowing takes place.

"Good Wine Needs no Bush."—This is an old proverb, and means that it needs nothing to point out where it is sold, because it was an ancient custom to *hang up a bush*, or vine, where wine was sold.

In a book called "Greene's Conceipt" 1598, it is said, "Good wine needs no Ivie Bush."

In "England's Parnassus," London, 1600, the first line to the reader runs thus: "I hang no Ivie out to sell my wine."

In Vaughan's "Golden Grove," London, 1608, is the following passage: "Like as an Ivy Bush put forth at a vintrie, is not the cause of wine, but is a Signe that wine is to be sold there."

TURNING IN GREEN CROPS.

PROBABLY there is no method by which *humus* can be so speedily and economically supplied to an exhausted soil, as by *turning in green crops.* For this purpose the buckwheat plant is very valuable, as it flourishes on lands which are too far reduced to produce any other grain, and as it decomposes rapidly, even when there is but a limited supply of moisture in the soil.

It is an oriental production, having been brought from the East during the Crusades, and has not lost its sensibility to cold; it therefore succeeds best on dry, sandy soils, where there is a good degree of heat. It will, however, thrive on lower lands, if previously drained, and on dry clays; so that, as a green crop for supplying *humus*, it is tolerably well adapted to every variety of soil on which it is desirable that such a crop should be grown.

On these light sands, and especially on hillsides, the labor of carting manure is a serious obstacle to their permanent improvement, and where, also, the wash of the autumnal and spring rains deprives the surface of everything in the condition of resolvable humus, no process of manuring can exceed the one now recommended, either as regards efficiency or economy. Such lands generally produce a slight vegetation which is rarely worth the expense of harvesting, but which may be of service if turned down and followed by a green crop.

When this course is adopted, plow when the grass growing upon the land has obtained its *maximum* growth—say, just in blossom. Then roll thoroughly, and after giving the surface a good working with the harrow, sow the seed, and roll again. The latter rolling will facilitate the germination of the seed, and also render the labor of turning in more easy.

When the wheat makes its appearance, a good dressing of lime should be applied, and the crop turned under as soon as it is in bloom. The roller must now follow the plow, and another application of lime, with a dozen bushels of wood ashes to the acre, would improve the next crop exceedingly.

It is an error to suppose that by adopting this process of enrichment, we necessarily return no more to the soil than the crop turned in takes from it. The aliment of buckwheat, as well as the aliment of all other crops, is derived, in part, from the atmosphere; so that we not only, in this process, obey literally a fundamental principle of good husbandry, in returning *all* to the land which we take from its vegetative powers and resources, but a considerable amount beisdes. Were the crop to restore only what it derived from the land—allowing the land to receive nothing from the atmosphere, in the meanwhile—the turning in of green crops, now so universally recognized as a judicious means of enrichment, would be abandoned, or rather would never have been devised or practiced.

In order that the reader may comprehend more fully the fertilizing capabilities of buckwheat, we annex the following analysis. It may be proper, however, to remark that the quantity of silica, which appears large in proportion to the other constituents, may have been increased by the dust adhering to the grain in this case.

Silica,	7.06
Earthy phosphates,	67.60
Lime,	0.14
Magnesia,	2.66
Potash,	23.33
Soda,	2.04
Sulphuric acid,	7.30
Chlorine,	0.20
	100.33

Plain lands that possess but little fertility, and which consequently require manuring before they can be profitably cropped, may be prepared for producing good crops of rye, by a crop of buckwheat. Rye is the only product which alternates favorably with this grain, and may be grown after it on any soil of ordinary richness. As a preparatory crop for the former, it is perhaps the most valuable that can be suggested.

For sowing, from half a bushel to three pecks of good seed is the proper quantity for an acre. It should be sown as evenly as possible, for on this will depend the uniformity of amelioration, in a great measure. No previous preparation of the seed is necessary, as it germinates readily in soil that is too dry to insure the vegetation of most other grains, and is so hardy that no ordinary privation of moisture is capable of seriously affecting its development while young.

As it is one of the class of lime plants, it is more essentially benefited by calcareous matter—that partaking of chalk or lime—than any other crop; consequently the application of

that mineral, unless the soil be calcareous, tends greatly to promote its growth and value, both as regards the plant and seed.

Prof. Johnston says, "a green crop plowed in is believed by some practical men, to enrich the soil as much as the droppings of cattle from a *quantity of green food* three times as great."

For the New England Farmer.

HOW PLANTS GROW.---NO. III.

By means of food derived from the atmosphere and the soil. This food consists chiefly of carbon, hydrogen and oxygen. Water consists of oxygen and hydrogen, so that we may say that carbon and water constitute the staple food of plants. Nitrogen is found in some plants, and phosphorus in the seeds of many. These two latter elements do not seem essential to the growth of plants, for many are found without them.

Various salts, as lime, potash, soda, iron and sulphur are held in solution in water, and are drank in along with it by the radicles of plants, and are deposited in the cells and in their interstices, which compose the frame work of plants, and contribute something to their bulk, and serve to modify their properties and products. A large quantity of water is drawn from the soil and strained through the vessels of plants. A sunflower, presenting between five and six thousand inches of surface, was found by Hales to exhale from twenty to thirty ounces of water daily, depending upon the condition of the atmosphere. When this was in a condition to hold in solution the minute particles of water presented to it upon the surfaces of the plant, the exhalation went on vigorously. No perceptible exhalation occurred in dewy nights, because the air then contained more water than it could hold in solution. What quantities of water, then, must pass through the immense surface presented by the leaves of a large tree!

But this water leaves in the plant whatever solid substances it contained in solution. In many plants these earthy salts seem to serve very little other purpose than to harden and solidify the tissues. In others they combine with acids that are formed in the vessels, and serve to give character to the plants, and are found in their juices as oxalate of lime, malate of lime, tartrate of potash, &c. Such salts are found most abundant in the leaves and fruits of plants; in less quantity in the stems and roots. We have said the principal articles of plant food are carbon, oxygen and hydrogen. Of these, carbon is the one most abundantly worked up in the growth of the plant. It is the material of which the root and stem, the branches and leaves are chiefly composed. It is received into the plant in the form of carbonic acid gas, or carbon combined with oxygen, which naturally has a gaseous form. When received, united with water, through the roots of plants, it is carried up through the stems into the leaves. When received through the pores of the leaves from the atmosphere, it is immediately mingled with the sap in the leaves brought up from the roots. It is subjected to the action of the light in the leaves, by which the oxygen is separated from the carbon. The oxygen goes off in the form of an invisible gas, and the carbon is retained and combined with the sap already formed, and is carried with this to the formative vessels which are at work in the plant. Thus, particle by particle, the vessels of plants obtain from an invisible gas, the material of which their structure is chiefly formed. That the structure of plants is chiefly composed of carbon, we may determine by examining a piece of charcoal, after everything else has been driven off by heat. We find that it consists of nearly pure carbon, and retains the form and nearly the size of the plant.

Animals feed on materials that have been organized in the vessels of plants. They have not the power of assimilating and vitalizing inorganic mineral matter. But plants feed on dead inorganic matter. They have the power of assimilating and appropriating to their own use, material derived from the mineral kingdom. The amount of material annually organized into the structure of vegetables on the surface of the earth, is inconceivably great. Whence is it obtained? From what sources derived? I answer, from the air and from water. Pure atmospheric air consists of oxygen and nitrogen. But air is not pure as it is presented to plants. It contains various substances in solution; substances which may be said to be accidental to it, which are not essential to its constitution, and may therefore be withdrawn from it without injury. These substances are collected into the atmospheric ocean, by which all plants are constantly bathed, and stored there for their use. About one thousandth part of the atmosphere is carbonic acid. This is returned to the atmosphere by the decay and combustion of vegetable and animal matter; by the respiration of animals, and by the decomposition of minerals, as fast as it is withdrawn by the growth of vegetables, so that the balance is never greatly disturbed. Carbonic acid gas is somewhat heavier than common air, and tends to accumulate in the lower strata of the atmosphere. Thus we find it in valleys, pits and wells. This circumstance brings it within reach of plants. But it is incapable of sustaining animal life, and the simple fact that carbonic gas is heavier than atmospheric air, would cause all animal life to cease from the earth, had not some compensation been found. This compensation consists in the withdrawal of this gas from the air, by the vessels of growing plants. As we ascend into the atmosphere, carbonic acid is less abundant. Perhaps this is one reason why plants thrive with less vigor in elevated situations.

Thus the very substances, which, accumulated, would destroy all animal life, is converted by a change of form, into the means of nourishing and sustaining every form of animal life.

Concord, Mass., July, 1867. R.

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.---No. IV.

Conveniences and Cost of Farm-Houses.

I think that almost every person on passing through this section of country would be struck with the large size of the farm-houses and numerous farm-buildings. The first query that arises in the mind is, how can it be possible for the farms to keep such buildings in repair? This question I am still unable to solve. Tobacco-raising may do it in some cases.

We see many old buildings with the long sloping roof on the rear side, and the short, steep roof in front; carrying us back to Revolutionary times, or to prior periods. Our fathers *believed* in big chimnies, and had them. In this, as in many other respects, we see evidence of the reaction that has taken place in architectural taste. We now occupy the smallest possible space in constructing them.

I do not fancy the style of the modern built farm-houses of this section. There is too much *outside* to them, for economy, comfort, or convenience. In illustration of this, I have a house under my eye that was put up the past summer, with four rooms on the ground *three* of which are *ells*, with windows on three sides of each of the ells, and an *outside* door to each room. With the exception of these outside doors, the rooms above correspond with those below. For summer occupancy this, of course, is all very well. For winter, give me less exposed quarters. From the inconvenience of doing the necessary house-work, as well as from the worse than needless expense in building and keeping in repair of such structures, deliver me. Think of the weary steps that must necessarily be taken to accomplish the daily duties of a family in such an ill arranged establishment. If a person is ever a subject for commisseration, it is the poor housewife, going into a new house of this description; where she must inevitably wear herself out in encountering the extra care and toil consequent upon its defects.

How much of the worn and wearied looks we too often see in farmers' wives are to be ascribed to the want of properly arranged houses — those adapted to their calling — we are, of course, unable to determine; but no doubt very much of it is traceable to this cause. As a general rule the *ease* and *economy* of doing the work of a household is overlooked in its planning.

As a rule that admits of few exceptions, a square house, with an ell, is every way the most economical in cost, and can be made in its internal arrangements the most convenient. In a square building we get the greatest amount of room with the least *surface*,—unless you resort to hexagon, octagon or circular, which few incline to, although strenuously recommended by some. I hope the day is not far distant when the proper construction of our farm-houses will become to those who purpose building, a subject for wise forecast in the particulars I have adverted to, viz: economy of cost, and conveniences for doing the work of a family. K. O.

East Windsor, Ct., 1867.

POULTRY AT THE PARIS EXPOSITION.

From an article on this subject by the correspondent of the *Prairie Farmer*, we extract the following paragraphs:—

There are in all 408 coops, or about 1225 fowls, of all the best breeds, viz: Brahmas, Dorkings, Black Spanish, Shanghai, Gold and Silver Spangled Hamburgs, Cochin China's, Dominiques, Maylay, Bantams, &c.

The exhibition of geese is not large, but embraces some excellent specimens of the Toulouse, Danube, Egyptian, Barnacle, and Embden varieties. The best turkeys are from an Irish exhibiter of Limerick. Generally these fowls are far inferior to those bred in the States. The show of ducks is very good, embracing the Normandy, Aylesbury, Poland, Labrador, Sifflers (Whistlers,) and three or four inferior French breeds.

The show of poultry and farm fowls is the the best by far that I have ever seen. The specimens, as I believe, with one exception, were from French poultry yards. The superiority of French fowls is well known everywhere and is the result of the love of this people for eggs and fowls for table use. A dinner without a fowl of some kind, is considered incomplete, and at breakfast, eggs, in some form, are considered almost indispensable. The consequence is, as before stated, great perfection in the breeding and management of domestic poultry.

Besides the breeds of hens mentioned above, there are four varieties, all of French origin so far as I can learn, that are not generally known to our breeders, that are certainly worthy of description and should be generally introduced into our country.

La Fleche---Arrow.

This is the race from which come those fattened pullets, so renowned and so remarkable for the firmness and delicacy of flesh, and which are generally known under the name of Du Mans. This fowl has a large, strong frame, and is very tall. Its plumage is black, with a greenish tinge, without any mixture of color. When young, the legs near the feet are of a grayish slate color, which, as they grow old, becomes less deep and rich The beak is strong, and the nostrils very open; the earlap

is formed of a whitish, well-developed membrane; the crest divides at the base, and forms two round and pointed extensions, like horns, an inch or more in length, from which, in the country, it gets the name of the "horned fowl." The weight of the hen when mature—say ten or twelve months of age—averages about six and a half pounds. The cocks at the same age weigh a pound or two more, and increase in weight until eighteen or twenty months of age.

They seldom commence laying before seven months old, and lay very few eggs in winter; but from the last of February they lay regularly until moulting time. They scarcely ever desire to set, and are not considered good mothers.

Breed of Mans.

The true Du Mans variety differs from the "Fleeche" in having a double crest. The form is nearly the same; the weight at maturity is considerably less; the flesh is considered about the same in quality and appearance, and the bird fattens as easily.

Creve-Cœur.

The Creve-Cœur (heart-breaker) has rather short legs; its body is long, plumage black, head ornamented with white feathers. Its early crest often presents the horned appearance of the Fleeche; the whiskers are thick, and the cravat very decided. Weight of mature female, six to seven pounds. The male of this breed, has a black plumage, tinged with green, very lustrous. They may have the collar and tips of wings a little pale or red, and yet be pure. After the second moulting, the tuft of the male bird should always contain some white feathers. When well fed, the cock at maturity should weigh seven or eight pounds.

This breed originated in Normandy, and is there in high repute with all the farmers. They are the first chickens sent to the Paris market, reaching here in April or May—a month or so in advance of those from any other department of the country.

The Houdan.

The plumage is an unique mixture of black and white. The head is very large and strong and surmounted by a tuft less dense than that of the Creve-Cœur; "cravat and whiskers" prominent; crest and wattles small. The feet are of a grayish lead color, and have five toes—two above each other, projecting from the hind part of the leg, above the heel. Weight of mature pullet, five to six pounds. The cock has a mottled plumage of tan mixed with pale yellow, though generally black and white. The feathers of the tail and wings have a very marked green hue. Up to three months of age the black predominates, after which time the white increases. The crest is divided into two parts, having the appearance of horns, like the Fleeche breed. Weight of mature cock, from six and a half to seven pounds.

The flesh of the Houdan fowl is very fine and delicate. They take on fat readily, but the hens are smaller and less precocious than either of the first-described varieties.

BUCKWHEAT FOR WIRE WORMS.

D. Marvin of West Alburgh, Vt., writes to the New York Farmers' Club that all the low lands in the vicinity of Lake Champlain are infested with this pest. He says:—

Two years ago I broke a low run-out meadow of eight acres in the spring and sowed to oats, expecting the sward would keep them busy the first season; but they destroyed about one-half the crop. I noticed that where I harrowed in the seed they did not destroy it; but not burying it to suit me, I loaded the cultivator, put on three horses and buried it deep. This was badly eaten. After the crop was taken off we plowed the ground late in the fall, ridging it up and draining it. Last spring, waiting until I thought the seed would grow rapidly, I sowed to oats, having in a considerable sprinkle of buckwheat, purposely, twenty-six bushels in all, to the eight acres. This seed never came up. I never before saw a crop literally eaten up. The worms were so thick when we got in the seed that we could see the yellow fellows roll up behind the cultivator and harrow. The buckwheat, I ought to say, came up, but they evidently ate considerable of this, so that it was a lost crop. The last of June we put in the teams and plowed it all over, and sowed to buckwheat, one bushel to the acre, which, as the ground was strong, was too much by one-half; however, the crop was good, but would have been better with less seed. We plowed again late last fall; the ground was clean and thoroughly fallowed, and on repeated examinations we saw no worms. Buckwheat is our only remedy. Experienced men prescribe two or three crops in succession, two at least, which do not deplete the strength of soil, and so thoroughly fallow it as to starve them out, and it is the only crop that will.

COAL TAR FOR SHEEP.—The Urbana *Citizen*, says that a farmer of Ohio, has used with great success, coal tar for maggots in sheep. When all other remedies failed to remove the maggots from the wounds, he applied the coal tar, which effected a speedy cure.

TANNING.—The report of the Commissioners having charge of this department of the Paris Exposition, have arrived at a conclusion which will meet the approval of practical chemists regarding the various processes for rapid tanning, namely: That no definite advantage has yet been found in these processes, and the period required remains about the same as before.

THE EUROPEAN SILVER FIR.

"Giant trees,
Children of elder time."—*Shelley.*

The Silver Fir was esteemed by the Romans for its use in carpentry and for the construction of vessels. Virgil speaks of

"The fir about to brave the dangers of the seas,"

and in describing the scenes of a particular locality,

"Hills clad with fir to guard the hallowed bound,
Rise in the majesty of darkness round."

They also used its wood for javelins, and the Emperor Caligula had an obelisk transported from from Egypt to Rome, which required the outstretched arms of four men to encircle it. It grows upon exposed, dry, stony places on mountains of the middle and south of Europe, and reaches to the height of from 130 to 150 feet. It is supposed to be the *abies pulcherrima* of Virgil and of Roman authors. Unlike the pines, its leaves grow singly round the branches, all turned toward one side and glaucous or white beneath.

MANURES.

This subject was discussed at the first of a series of Legislative meetings inaugurated by the Committee on Agriculture of the New Hampshire House of Representatives.

Rev. Dr. Barstow, of Keene, alluded to the fact that plaster was of no use in that section.

Hon. Mr. Read, of Swanzey, suggested that as the elements of plaster were present in the soil in sufficient quantities, its further application was unproductive of apparent good.

Mr. True, of Antrim, said no effect is seen if the season is wet, but if dry the plaster placed in the hill attracts the moisture and with this the salts of the soil, keeping the plant in a more vigorous growth than it would otherwise have. He also thought that top-dressing of moist grass lands was a very profitable method of using manures. He used a mixture of stable manure with sawdust which had been used as a litter in the stall.

Mr. Smith, of Lyme, was a friend to sawdust. A few years ago, in planting a piece of pine plain land, he took sawdust that was from three to five years old and put half a shovelful upon potatoes after they had been dropped in the hill. He thought he received as much benefit from it as from the like quantity of green manure, and more than from ashes and plaster. In the fall he had a quantity of green sawdust placed in his garden expecting to remove it in the spring; but it had become so much spread about that all was spaded in. The soil was very sandy. The crops were unusually large that season.

Mr. Read, of Swanzey, uses sawdust. Its value as a fertilizer depends upon the kind of wood from which it is made. Those kinds which make the largest amount of ashes are the best. It must undergo decomposition before it can be of any use as a fertilizer.

During the discussion the following points were made.

1. Potash or lime salts were of use upon nearly all soils that had been long under cultivation, the particular salt to be used depending partly upon the natural constitution of the soil and partly upon the demands of the crop growing or to be grown.

2. Gypsum, sulphate of lime, is useful, not alone on account of the lime of its base, but

from the sulphur of its acid component. Sulphur is an essential constituent of the albumen and gluten of most grains. Many crops fail from the difficulty with which this element is obtained from the slowly decomposing soil. Sulphate can, under these circumstances, be advantageously applied.

3. Gypsum is applied in Europe upon grass, and especially upon red clover, and upon other large leaf crops, in which case its efficacy depends mainly upon an abundant supply of water also.

Mr. Walker, of Concord, said that at the Asylum farm, there has been constructed below the level of the buildings an immense open tank of stone with water-tight walls and floor. Into this several hundred loads of old and well-decomposed muck are put two or three times a year, and upon this is received all the wash from the closets, sinks, laundry, &c., of the Institution. When this mass has become thoroughly saturated, it is removed and its place supplied with fresh. This manure is put upon the lighter portions of the farm, and the stable manure upon those parts that are heavier.

For the New England Farmer.

HOW PLANTS GROW.---NO. IV.

Pure water consists of oxygen and hydrogen. But rain-water is not pure. As I have said, water has a strong affinity for carbonic acid and ammonia, and as its vapor is precipitated in the form of rain, it brings down carbonic acid and ammonia, and carries them into the soil. It is estimated that the surface water is converted into vapor and precipitated from ten to fifteen times annually, thus washing the impurities from the atmosphere and bringing down carbonic acid and ammonia into the soil for the use of plants.

Plants receive all their food in either a gaseous or liquid form. In the atmosphere they find it in the form of gas. In water they find it in a liquid form. Water also contains in solution many other substances derived from the mineral kingdom, which, if not essential to the growth of plants, yet are appropriated by them to the formation of various products peculiar to their several families, as gums, resins, oils, odors, coloring matters, poisons, &c., and to the performance of their secondary functions, the reproduction of their species.

These substances are lime, potash, soda, magnesia, silex, iron, manganese, phosphorus, sulphur. Thus nature has provided the food of plants in two distinct forms and stored it up in two distinct reservoirs. Plants have not the power of locomotion. They cannot roam abroad in quest of their food, like animals, and this double *commissariat* is the compensation which nature has provided. But how do plants grow? We have not yet answered the question. We have merely spoken of the food which plants consume, and the sources from which it is obtained. We have not spoken of the organs by which the assimilation and vitalization of plant food are effected—the formation vessels—the vessels in which secretion and excretion are carried on.

The various organs of plants consist of cells, which were at their formation soft, transparent, round or ovoid bodies, but arranged into congeries and strata, they become elongated and flattened, and in this form are generally presented to us.

A common form of vegetable cells is that which a kernel of rye would present with its two ends cut off so as to leave the ends more blunt than when the grain is perfect. In a growing plant new cells are constantly formed, and arranged in the direction of the axis of the plant, and in the direction of the circumference; that is, plants grow at the same time, both in length and circumference. We have two classes of plants in which the arrangement of the cells differs somewhat. In exogenous plants, or plants which grow by additions to the surface, the new cells are arranged between the sap wood or the albumen and the bark. This is by far the most numerous class of plants in our climate. It embraces all our wood bearing trees and shrubs, and most of our annual and biennial plants. In endogenous plants, as Indian corn, sorghum, the common flags, asparagus and the palms, the cells are arranged in bundles or threads, which grow in the direction of the axis of the plant, and are inserted in the mass of pulpy tissue which the plant contains. If you cut off a stalk of corn and bruise is a short distance from the cut end so as to break the sap vessels, you will have a bundle of threads or fibres. These are constantly multiplying in number and increasing in length from the centre to the inner surface of the enclosing skin or bark.

In annual and biennial exogens, the internal layers of cells become hardened or filled with excretions, and cease to aid in the circulation of the sap, which goes on in the external layers. In perennial exogens a new layer of cells is formed annually. The internal layers after a time become hard and filled by the deposit of foreign substances as lime, potash, silex, &c., or by the excretions of the plant, as pitch, resin, gum camphor, &c., and contribute little or nothing to the growth or other functions of the plant which are carried on in the albumen, and chiefly in the outer layers of that, and in the inner layers of the liber or inner bark. These cells are formed in every part of the plant. They constitute the framework of its root, its stem, and its foliage. In these cells the work of assimilation and vitalization goes on. They are lined with a mucilaginous substance, which, in addition to carbon, oxygen and hydrogen, contain nitrogen. This is the vitally active principle of the plant, and may be said to give form to the plant; for, under its influence, the prepared sap or cellulose is deposited to form the permanent walls of new

cells. This vitalizing mucilage or protoplasm, as it is called, exists in minute quantity and as the cells are completed it moves forward into the new, and forming cells along with the sap or cellulose from which new deposits are going on, it does not become incorporated into the tissues of the cells, or appear to constitue an essential part of them, for it may be washed out of them, and yet its presence is absolutely necessary to the formative process in the vessels of plants. Through the cells thus arranged in the sap wood of plants, water containing the various substances heretofore named in solution, is transmitted. It is carried on into the leaves. Here a portion of it is transmitted through the pores of the cuticle of the leaf, and passes into the atmosphere. Another portion is decomposed by the action of the chemical agencies at work in the cells of the leaf, and its solid contents, together with its carbon retained, and its oxygen is given off into the atmosphere. The carbonic acid imbibed from the atmosphere is at the same time decomposed, and, mingling with that obtained from the water brought up from the soil, now forms the descending or prepared sap, and is transmitted downward in the cells of the inner bark or liber, and carried through the cells containing the protoplasm or vitalizing fluid, which acts upon it, and produces in it that change, whatever it may be, which fits it to be incorporated into the tissues of the plant, and become a part of an organized being. There is a close analogy between the processes by which plants and animals grow, although there are two very important differences. One is that animals make use of foodthat has been previously organized and vitalized; another is that a much higher degree of vitalization is imparted in the vessels of animals than in those of vegetables. We cannot trace the various steps of the process as distinctly in plants as we can in animals. But the results are as obvious in the former as in the latter. The food of plants taken in by the spongioles of the roots and by the pores of the leaves and green bark is carried forward in obedience to certain forces operating in the cells of plants, until it reaches the cells of the leaf, as the food of animals received by the mouth, and under certain circumstances, by the pores of the skin, is carried forward until it reaches the lungs. In the leaf, as in the lungs, certain chemical changes are wrought upon the food by external forces to which it is here presented. In the one case the change is effected by means of the chemical affinity existing in one of the constituents of the atmosphere for an element presented to it in the blood. In the other case the change is effected through the chemical agency of light, aided by the stimulus of heat. In both cases the result is a fluid containing certain elements fit to be incorporated into the growing tissues.

When an abundant supply of suitable food is taken up by plants, new cells are rapidly formed, and become engorged by tissue-forming fluid. The cells are then large and filled with sap, and the tissue formed is soft and spongy. The plant is then growing vigorously. In a short time, it may be in a few days or weeks, the vessels cease to take in food so greedily. Solid matters are deposited in the cells, and they become firm and hardened, and growth ceases. So, in animals, the formative vessels, when the supply is abundant, appropriate what they can use, and the remainder which has been taken in is carried off by the excretory vessel. In animals the stage of growth is continued one, two or many years. In perennial plants it is annually renewed and annually ceases for a succession of years.

Both in plants and animals, the process of growth goes on until the individual attains certain limits, when it ceases. Why the process is thus confined I know not. Why the germ of one plant is developed in successive growths for centuries, until it reaches a gigantic size, and that of another completes its development in a few weeks or days, and only reaches a size so minute that it is scarcely visible to the naked eye, I know not. I can only say that it is in obedience to a law impressed on its constitution.

Thus I have said a few things about the growth of plants, which is one department of vegetable physiology, but have scarcely begun to discuss the subject. It is a subject of great interest, and has relations with all animate and inanimate nature. By its study we are strikingly taught the wisdom and skill of the Creator, and our entire dependence upon his power and goodness. J. R.

Concord, Mass., July, 1867.

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.---No. V.

Barns and Out-Buildings.

This section presents no exceptions to most others of our country in the location and character of the barns and other out-buildings of the farm.

In a majority of cases, it would appear as if *chance*, and not forecast, decided the question of their position, and that adversely to the best interests of the farmer and the farm. Most of those where some plan appears to have been observed, are open to objections in several particulars. It is not to be expected that all men will be suited with the same style of house and surroundings, neither is it desirable. If this were the case, we should see a sameness that would be wearisome to us. The cheapest of buildings, whatever their uses, are susceptible of tasteful construction. Their proper location is a very important matter. Health, wealth, comfort and convenience are to be consulted.

Most men have been more or less influenced, when locating a new house, by the position of

the old buildings. Want of means, no doubt, in many cases prevent a radical change. We will assume the house to be a fixture, and consequently that the out-buildings must be *adapted* to it, and to the demands of the farm. On every hand we see barns and other out-buildings quite too near, and often in front of the dwelling. Prevailing winds are also disregarded, as well as the liability of having the odors of the barnyard and pigpen wafted to the dwelling. True, it is desirable for New England farmers to have their barns not far from their houses, and also to have them sheltered as much as possible from driving winds, so as to make the yards comfortable for stock during the winter. Such locations make a saving in the consumption of feed not to be overlooked. If there are no trees to do this, plant them. A few years—less than most think—if they are properly cared for, will give a good shelter, which, when once possessed, will be highly prized.

When a boy, on my father's farm, in the most stormy and cold weather, I often had to go a fourth of a mile, facing the north wind, to a barn exposed on all sides to the winds, without a tree to break their force. I pity the boys who are now obliged to do the same thing, and commisserate the poor brutes under their care, which, as soon as they pass from the shelter of the barn, are exposed to the full sweep of these cutting winds.

Diversity of opinion prevails with those who give us their preferences as to the internal arrangement of the barnyard. Some would have it concave, others an inclined plane; the former to hold all that gets into it, the other to drain off all the liquids. Both of these plans are based on the yard being covered with loam, muck, mulch and such material as is supposed to be valuable for composting with the droppings of the cattle. The concave plan secures a mud hole for both man and beast. The inclined plane will not be free from the same evil, and at the same time results in a great waste of valuable manure. I have ever thought the most desirable method was to gather up the droppings and compost them in the barn cellar or sheds, turning on water from the eave-trough if required. I think more value of manure can be thus secured than in either of the foregoing methods. It is also well to mulch the yards, and occasionally gather it up to add to the compost heap.

As to architectural design. If new buildings are to be constructed every one will concede that in a good degree they should conform to that of the house, providing the house is modern, and is to remain permanently. I have seen but one barn (I do not mean gentlemen's stables,) on the Connecticut River, between Hartford and Northampton, in which this idea appears to have been thought of. I know nothing of the interior arrangement of this barn; but the least observation of its exterior carries to the mind a conviction of its fitness to the surroundings. It is really a thing of beauty, and though plain and unostentatious, is yet attractive by its harmony of proportion and adaptedness to its location and surroundings. I hazard nothing in asserting that if the owner of that farm desires to sell it, his barn would be to him a surety of a liberal purchaser. He might expend far more on an ark of a building without beauty, and fail of obtaining as favorable pecuniary results. Such unsightly buildings as most farms are provided with are a great drawback to their money value, as well as a sad marring of the beautiful and appropriate. K. O.

East Windsor, Ct., 1867.

EXTRACTS AND REPLIES.

OSAGE ORANGE.

Will you please inform me whether Osage Orange will grow as far north as Vermont, and if so where I could procure roots or cuttings, and oblige

Shelburne, Vt., July 3, 1867. SUBSCRIBER.

REMARKS.—Our impression is that this hedge plant is not sufficiently hardy for your climate. We remember of seeing a statement that in central Illinois the osage orange was somewhat damaged by frost last winter, although peach trees in the same section were less injured than usual. Still if your place is somewhat protected from frosts by the Lake, we hope you will make an experiment in a small way, for your own satisfaction, and by publishing the result, for the benefit of your fence-ridden brother farmers. The editor of the Albany *Cultivator* says that "with proper care we have never found the least difficulty in forming a perfect hedge. The requisites of success are—1. A dry subsoil, naturally so, or by an underdrain near the line of the hedge. 2. Preventing gaps by transplanting well only perfect plants. 3. Cutting back twice a year at successive heights, so as to form a thick bottom. 4. Keeping the ground well and constantly cultivated with plow or cultivator, at least four or five feet wide, on each side of the hedge, for the first four years." Probably a large share of the failures in hedge-growing result from want of proper cultivation and management. Plants may be obtained of western nurserymen, at six to ten dollars per 1000.

MANAGEMENT OF MUCK—MAKING MANURE.

There is a vast difference in the quality of the various deposits of muck. In some places where it is saturated with water from cold springs, it is of little value, but not wholly worthless. By carting it out and letting it lay in the sun and rain and working it over it becomes worth something; but it needs to go through a state of fermentation. Other and larger muck or peat deposits are more valuable. My muck bed is of the larger class. When I bought the farm where I now live, in 1841, the bed was called worthless. It was an unsightly place, full of old logs and all manner of rough stuff, like thousands of others. I cut three ditches through it; one in the middle, and one on either side. I drained the land gradually, little faster than I wanted the muck for use. The ditches carried off the cold springs and the surface soon be-

came dry and firm enough to support a team, and I have plowed some of it and raised good potatoes and corn thereon; not however without having first taken out a great many loads of hemlock roots, logs, &c. On this meadow the peat is from one to ten feet deep, covering about five acres. When I commenced here I had had no experience with muck, but had it all to learn. I tried it in various ways, and in all cases found some good result from it. For the last fifteen years I have taken but one course with it, and that is, to cart it in the fall into my yards, even it off carefully, and put the stock on through the winter. In the spring as soon as it is thawed the great part of the dung is taken off; the more there is left, however, the better for the muck. After planting, it is put into heaps of considerable size, where it lays until haying, when it is worked over during lowery days, &c., being careful to pulverize it finely. It is then thrown into heaps again. There it will ferment and become like any rotten manure. I let it lay until perhaps the last of September, when it is drawn out on to such parts of the grass land as need it most.

With this management, I find no difficulty in keeping my land in a good state of cultivation. I sell the larger part of my hay, and I think I could sell it all, except enough to keep a team, and still keep my farm in a good state of cultivation. But I would say to all farmers and farmers' boys, work with your hands and keep manuring, for if we should stop manuring we could not live in this country, nor in fact, in any other, but a short time. Keep a hoe and shovel in a handy place, and do not let them rust, but wear them bright by use. Scrape up all refuse vegetable matter about the buildings and roads, and put it in with the hogs. They are a mighty help to make manure. I think that I can make as much worth of manure from ten hogs in a year, as you can from ten oxen in the same time. O. FOSTER.

Tunbridge, Vt., April 7, 1867.

TREE BORERS.

MESSRS. EDITORS:—In glancing over an article in your last issue, July 6th, headed "Tree Borers," I find one or two corrections necessary, to render it valuable to the community. I will briefly enumerate them without further preamble.

First, "The borer" is the popular name given to the larvæ of several kind of insects, not only beetles, but various moths and wood-wasps; as the locust-tree borer, the pear, and the hickory, the peach, and the squash vine borer, even, belong to the moth order, *Lepidoptera*. Pine trees are much injured in the Middle States by a borer which is a bee, *Xylocopa*. Secondly, "*beetles*" are not "*bugs* with *wings* and *hard shells*," unless a *cow* is a *horse* with *legs* and a *tail!* Many bugs have hard shells, and the majority have wings, while numbers of beetles have no wings, and a still larger number have soft shells.

Line 8th. Their *third* period is called the *pupa* state. The first state is that of the egg, the second that of the larva, the third as above, that of the pupa, and the fourth and last that of the imago or adult.

The cocoon is not a condition, or state, but as it were a felted blanket spun or woven by the larvæ of many insects, to enclose and protect them during the pupa state. Few larvæ of butterflies do this, but suspend their pupæ, which are sometimes called chrysalides, by the tail, and frequently also by a girdle about the middle.

At the close of your fifth paragraph. The larva of the oak-pruner beetle does not enter the ground. I am not aware that the larvæ of any of the *Longicornia*, (long-horned beetles, mostly borers,) or *Buprestidæ*, (short-horned beetles, mostly borers,) do so. All pass their preparatory stages in the bodies of the plants on which they feed.

The branch containing the oak-pruner larva or pupa, may by falling to the ground be kept more moist, (a great desideratum by the way) or protected by the snow and fallen leaves from sudden changes of temperature during the winter.

Paragraph seven has one slight typographical error; Bivittata, or "two striped" was the name applied by Thomas Say to this species; its older and more proper name however is *Candida*, meaning white.

With sincere regard, and an earnest wish to assist in furnishing the public with correct information, I am very truly yours.

FRANCIS GREGORY SANBORN.

Rooms of Boston Soc. Nat. Hist., July 8, 1867.

REMARKS.—We thank our friend for his corrections. And while we cheerfully accept his amendments, we must be permitted to say that we are pleased that the keen eye of a thoroughly read naturalist should have discovered so few errors of fact and expression in an article hastily written in a most busy season upon the farm, and for readers who see much more of the operations of borers, beetles, bugs and pruners, than they hear or think of their proper classification, or of the exact terms which the books employ to express the various stages of their wonderful transformation in coming to maturity.

THE SEASON IN MAINE.—FEEDING COLTS.

In our vicinity we have had a very backward spring. Some among us did not commence planting until the very last of May. Others, upon sandy farms, planted as early as usual; but most of the farms in our vicinity have clayey loam, which retains the water longer than most other soils. But, the late spring is followed by a very growing season. Corn planted the 10th of June has come forward finely, and has been hoed the second time. The hay crop promises to be fair, but not abundant. I don't think there will be twice as much as there was last year. It is predicted that July will be a showery month, and if hay is not considerably damaged I shall be mistaken.

Please inform me whether oats, corn or meal should be fed to a colt in the winter after it is a year old in the spring. C. H. W.

Wiscasset, Me., July 8, 1867.

REMARKS.—That depends greatly on the quality of the hay or other fodder which the colt is expected to eat. Where there is plenty of good clover hay, and a few potatoes, we doubt the expediency of feeding much grain. Colts should never be forced with provender, nor stunted for want of nourishing food. They should, however, be kept in a growing, thrifty condition, even if it be necessary to give them a little grain. Will some practical horse raiser answer our correspondent's inquiry more fully.

DRY CLAY AS A DEODORIZER.

I have frequently seen plaster of Paris recommended to spread on manure heaps, put in privies and cess-pools to absorb the gases and deodorize the mass. The objection to the use of plaster is its expense. To use a sufficient quantity to be effectual, would require so large a percentage that when the manure is spread in the field, more than four times as much plaster is used on an acre as is of any benefit. An equally efficient and much cheaper

substitute may be found in common clay, the dust of a travelled road on a clay soil. I have found by experiment that it will neutralize the odor more quickly and effectually than plaster. A few barrels full, saved at the proper time, would last for a year, to be occasionally thrown into a privy, keeping the same sweet, rendering the work of removal comparatively inoffensive, and furnishing a valuable compost for the farm or garden.

I discovered the efficacy of clean clay to purify water several years since. I had occasion to use some water as soft and colorless as could be obtained. I found that alum would remove all the mechanical impurities, but left the water slightly colored, in consequence of passing through swamps some miles up stream. I then mixed with it a small quantity of pure clay; after twenty-four hours the water was as clear as a crystal, and the deposited clay brown as brick dust.

A NEW SUBSCRIBER.

Middlebury, Vt., July 4, 1867.

REMARKS.—If clay cannot be readily obtained, dry muck, soil or even sand will be found quite efficient for ordinary purposes. But it is so *much* work to house a few wheelbarrow loads, or we are so liable to neglect it at the proper season, that few of us keep any thing of the kind on hand, and consequently when a deodorizer is needed, we are compelled to buy plaster as a penalty for our improvidence.

IMPROPERLY CURED HAY.

Much has been said and written about cutting hay in the forenoon, and putting it in the barn the same day. This is an easy practice for filling the barn, and will answer very well if your object is to have your cattle all poor in the spring, and your horses die with the heaves. I do know, from fifty years' experience on a farm, that the very best English grass, managed in the above way, is not worth so much as good meadow hay well cured. I do know that English grass cut in its prime, say when herds grass and red top are full in the blossom, needs the farmer's best attention and a drying sun for two days to prepare it to mow away in the barn.

Some farmers may think that by putting their hay in the barn slack dried, that they will get more weight in the spring; but this is a great mistake. Hay put into the barn imperfectly dried, will heat and sweat, and lose more weight than by fair drying in the sun and air. In the spring slack dried hay will smell rotten or musty, while hay dried as it should be, will, if a forkful is thrown out doors of a dewy night, smell the next morning like new hay in the cock on the Fourth of July. Such hay as this will fatten your horse, give your ox strength to draw the plough, and make your cows fill the pail with milk.

If the farmers in New York are in the practice of cutting their hay in the forenoon, and mowing it away in the afternoon of the same day, instead of wondering that they are troubled with abortion in their cows, I wonder at their having any live calves at all.

ASA G. SHELDON.

Wilmington, Mass., June 25, 1867.

RANK OF FARMERS.

Brother farmers, who feel as though your occupation was considered low by men in other walks of life, and yourself slighted, will you please stop a moment and see what you have done or are doing to entitle you to a more worthy consideration. If your only object in tilling the soil is to procure food and clothing, your occupation is not above the ox grazing the field for his food. If you own a good house, purchased with your money, you are not entitled to more credit for it, than the purchaser of a painting. By others' skill the house and painting have been produced, and you are to be honored only for your taste in selecting the works of another. Make an effort to not only live, but to produce domestic animals of all kinds kept by you, that shall not only have a market value, but which shall be as great proof of your skill as a fine painting is of the skill of the artist. Make both your efforts and result as public as they do and due honor will be accredited. Let farmers as a class do this, and their pursuits will rank among the highest; faling to do that do we not deserve the low place we occupy?

ZENAS.

New Hampshire, 1867.

GOOD HENS AND GOOD PRICES.

Having noticed several reports of profitable fowls in your valuable paper, I may say that I have eight hens of the white capped Black Poland variety, which I think have been profitable. They have laid from the first of March to the first of June, this year, thirty-one dozen eggs which I have sold for $1 a dozen at the house.

E. HAYWARD.

Danvers, Mass., June 17, 1867.

SCATTERING RYE ON OAT LAND.

I frequently notice at this time of the year scattering spears of rye, growing on land which the year before was seeded down with oats. Will some one tell me how it gets there?

Royalton, Vt. July 1, 1867. J. G. BENNETT.

THE MYRICK HORSE.

Can I be informed through the FARMER where the Stallion Sherman Blackhawk, well known as the North or Myrick horse, may be found the present season, terms of service, &c.

West Randolph, Vt. June 25, 1867. JACK.

REMARKS.—We are informed that this horse is now owned by Mr. Bailey of Portland, Me., and that he is regarded as a remarkable fine animal by the horse fanciers of that section, but we cannot answer any of the other queries of our correspondent.

USE OF SUPERPHOSPHATE OF LIME.

A constant reader of the NEW ENGLAND FARMER, wishes to use *superphosphate of lime* on good ground, where winter rye is to be sown, and would like to have some one, who has had experience in it, tell him, through the columns of your paper, how *much* to use and *how* to use it.

A SUBSCRIBER.

Worcester, Mass., June 17, 1867.

REMARKS.—Do not use less than 300 pounds per acre—400 will be better—and work it in when the grain is harrowed in.

CHESS.—CURCULIO.

As the year has closed for the FARMER, I enclose the money for another year. The paper is to my house a constant source of instruction and comfort. We should not know how to do without it.

As it is now quite customary for those who take the FARMER, to make inquiries concerning the farming interest, I take the liberty, as a small farmer, to do the same. I have a piece of winter wheat, sown the last day of August, that came up finely, grew well through the fall, and came out looking well in the spring. I flattered myself I should get a fine crop; but when it headed out it

was full one-half chess, the largest proportion of any piece I have ever raised. If you or any of the readers of the FARMER, can assign any sure preventive, so we can rid ourselves of the evil, a great favor will be conferred on me as well as the public in general.

Also a cure for the curculio is greatly wanted. I have a few fine trees that blossomed full, set the fruit well, and I flattered myself I should have a fine crop, but they are all gone. If some one will be kind enough to find a sure remedy, and make it known it will be a great favor.

A SUBSCRIBER.

Shoreham, Vt., July 7, 1867.

REMARKS.—These are hard nuts to crack, and a great many wiser heads than ours have failed in the attempt, after cracking their own fingers badly. Column after column, and page after page, of our agricultural publications have been filled by practical farmers and theoretical writers on the chess question, and still it is far from being settled in the minds of many. The amount of foul seed which we have seen separated by Mr. Adams' improved winnowing mills, from what was called clean seed, is one of the facts which incline us to the opinion that chess, like other plants, is brought forth "after his kind." If this theory is correct, the seed of the chess which grows in the field of a Subscriber, was either sown with the wheat, or, like that of white clover, it "sprang from the ground."

In this connection we copy from the *Country Gentleman* the following inquiry and answer.

I have a piece of wheat, sowed last fall on rich, heavy, clay soil. I find it full half *chess*, growing with the wheat on the same roots. I send you a sample. I don't have to look to get it. It seems to be all so. I have often read of wheat turning to chess but have never believed it until now. Can you give an explanation? P. P. S. *Greenfield, Mass.* [A very little examination will show our correspondent that, though the wheat and chess stalks in this case were growing up so closely together that their roots are somewhat intertwined, each has its own distinct and separate root, just as plainly as if they had grown a rod or more apart. With a very little care the stalks may be separated without breaking a fibre, which certainly does not look to us as though they grew "on the same roots," but rather as if the little chess seeds had been deposited with the seed wheat, and in very near conjunction to the kernels of the latter.]

In relation to the curculio, we have repeatedly published all that we know, if not a little more. We refer our correspondent to the Weekly FARMER of June 15, for an article of more than a column, on the habits of this little fruit killer, and on the best known remedies for its ravages.

BIRDS AND PEAS.

Will you inform me and my neighbors, through the columns of your very valuable paper, if there is any way to protect peas from the ravages of the birds; and what kind of birds it is that are so bold and greedy? They have taken *every early pea*, and promise to be thus faithful with the later crop. Please give us a remedy against so annoying an evil, and oblige your correspondent.

July 8, 1867. MONTAGUE.

REMARKS.—Kill a large cat, skin her, cover the inside of the skin with soap that has arsenic in it, to prevent it from decomposing, stuff the skin, put glass eyes into the eye-holes, and set her up as crouching and stealthy as you ever saw a cat that was watching a bird. Put her up among the pea vines, and twice a week change her position; if that does not keep off the birds, we know of nothing that will but powder and shot!

The depredators are, mainly, the gold-robin, (Baltimore oriole,) the common robin and cedar bird. The first is the most destructive. They all, however, leave us a fair share of the crop. We must plant liberally so as to compensate them for their music and other benefits which they confer upon us.

Doves are very destructive to peas, when they are only an inch or two high, by working about them with their bills and pulling them up.

MANCHESTER, MASS.

This is one of the quiet towns which nestle among the rocks of our iron-bound coast. The business of the people of this place was formerly almost wholly fishing. About fifty years ago a cabinet shop or manufactory was opened here, and the business has gradually increased, until it has become the leading interest of the people of the place, who now number about sixteen hundred. Soft wood lumber is obtained from Maine and New Hampshire, and hard wood from the West. The business appears to be reasonably prosperous, and the prospect for the future good.

Between the rocks which occupy a large part of the surface, the soil appears to be very good; and here and there are to be seen the gardens and orchards of some of the more enterprising inhabitants. Mr. J. Godsoe, who has been a constant reader of the FARMER, for quite a number of years, has set a very good example of what enterprise and industry can do to make a pleasant home on this rocky coast. In 1831, he began where he now lives, then a waste piece of land, with no neighbors. Now there is quite a street, lined with good houses and gardens. Mr. Godsoe has a very fine apple orchard which looks quite thrifty, although this year there will not be a large crop. Mr. G. has improved his ground so that he has a fine garden, with the choicest variety of grapes and other fruits. He has also a fine grapery with forty vines in it which presented a most neat and pleasant appearance, as the vines were very flourishing. Mr. G. takes great pleasure in the care of his grapery, and he may very justly feel proud of it. His house is most pleasantly situated, and his buildings are comfortable and commodious.

Mr. Killem has recently built a new grapery, 40 by 28 feet, and costing about $800. It is constructed in the most thorough manner and of the best materials, the glass being from England.

W.

OLD PASTURES.

Much has been said and written about old pastures. I have one which has not been plowed for over thirty years. I commenced on it last spring by removing the stones and laying them as I drew them into wall; took extra pains in plowing and harrowing, and sowed 1½ bushels of India wheat to the acre; harrowed again, then put on 200 pounds of plaster and the same of phosphate of lime to the acre. When the wheat arrives to a certain growth I intend to roll it, plow it in and stock it this fall, say the last of August or the first of September.

Now I want to know what kind or kinds of grass seed I had better sow. Clover does well here for about two years, then it disappears. Had I better

sow Clover, Timothy, Hungarian and Fowl Meadow, and if so, how much of each to the acre? I wish to stock heavy and cut the grass for one or two years, then turn it into pasture again and see if it pays. I will at some future time give you and your readers of the good old FARMER the cost per acre and the gain by so doing. The land is a sandy loam, warm, quick soil, with an east slope but too far from my buildings to manure with barn manure. Let me hear from you through the columns of the FARMER. A SUBSCRIBER.

Peacham, Vt., July, 1867.

REMARKS.—Sow 8 to 10 quarts of timothy seed, 1½ to 2 bushels of red top, and add to these two quarts of Kentucky blue grass, per acre. This latter will not add materially to the crops of hay you may take off, but will come in and make a permanent pasture grass. We shall be glad to receive the result of your experiments.

WILD GRASSES.

I wish to know the names of these two grasses, and their value as grasses for hay, and if they do well on wet or dry land, and if they have to be seeded in the spring; and which is the best grass, one that has got a beard on the leaf or the other?

Blackstone, Mass., July, 1867. A SUBSCRIBER.

REMARKS.—The grass with the broad leaf is probably the *blue joint*, and is considered a valuable grass when cut early—that is, while in bloom. The other is undoubtedly a valuable grass. Both are wild and probably do not require sowing or culture.

CROPS IN WESTERN VIRGINIA.

One of our subscribers in Hardy county, Western Virginia, in remitting his subscription for the weekly FARMER, communicates the following interesting facts in relation to the crops, the season, &c., in that section:—

I have not sold my last year's tobacco crop. This coming winter I shall try to work it up into cigars. I have out another acre of tobacco, eight of corn, one of cane, and one of potatoes. It has been too wet for corn, cane and tobacco. My corn is turning red on this account. There will be, I fear, a great deal of wheat injured in the shock, if it continues wet a few days longer. There is a large quantity of corn planted in this valley (Capon). The following are some of our current prices:—wheat flour, 6 cents per pound; corn $1 per bushel; butter 12½ cents per pound; eggs 10 cents per dozen; bacon 10 cents per pound.

Hardy County, W. Va., July 9, 1867.

FINE STEERS, AND CALVES.

While at West Fitchburg, Mass., the other day, I saw some fine cattle at the farm of E. D. Works. One pair of yearling Durham steers particularly attracted my attention. They were well matched, and weighed 1800 lbs. He expects they will weigh 2000 by Fair time. I noticed a pair of native steers of the same age, which though a fine pair were not as large as the other. Mr. Works takes a laudable interest in the improvement of his stock, and showed me a pair of four-year-olds which, considering that they were kept mostly on meadow hay until the past winter, were very creditable animals, and weigh 3000 lbs.

On passing the farm of Jos. Whitney, in Sterling, I saw a pair of calves, which were larger and better than any I have seen this season. These were actually larger than three-fourths of the yearlings to be seen in our pastures. I did not learn their weight. Too many farmers sell their best and most promising calves for Brighton, and then depend on the little dwarfs from Canada to fill their places. B. D. W.

AGRICULTURAL ITEMS.

—To save time in looking for lost pruning knives and other small garden tools, a bright red paint is recommended for the handles.

—If you would have your daughter's husband pleased with his breakfast, teach her to get a breakfast.

—In England, land is rented, first to the gentleman farmer, next to the managing farmer, who employs poor laborers.

—In long summer days, between the Atlantic and Pacific coast, our farmers have daylight for 21 hours and 40 minutes.

—The States of the Pacific coast are as populous and as wealthy as were the whole Colonies in the time of the Revolution.

—Somebody has calculated that the time and strength wasted in one year's churning would build a railroad across the continent.

—Secretary Klippart, of Ohio, has ascertained that there are about fifty different draining-tile manufacturies in Ohio.

—Air slacked lime sprinkled over currant bushes will prove a perfect preventive to the ravages of the currant worm. So says a correspondent of the *Rural New Yorker*.

—A pound of copperas dissolved in four gallons of water and poured over the sink three or four times will, it is said, completely destroy all offensive odor.

—Governor Crawford, of Kansas, is building a stone fence around his farm, the entire length of which when finished will be one thousand two hundred and eighty rods.

—The *Canada Farmer* publishes a list of town, county and district agricultural societies, in Canada West, numbering three hundred and twenty-nine.

—A correspondent of the *Country Gentleman* made a clean sweep of the currant worm, which was destroying his currant and gooseberry bushes, by a thorough dusting of a mixture of equal parts of plaster, wood ashes and slacked lime.

—The investigation into the causes of abortion in cows, for which an appropriation was made by the late legislature of New York, has been commenced by Prof. John C. Dalton, aided by scientific assistants.

—At a recent meeting of the Little Falls Farmers' Club, Geo. W. Davis gave the results of a comparison of cost of making cheese at factories and in private dairies. The calculation was based on thirty cows, and the result was as $271.00 to

$225.60—or $45.40 in favor of the factory in point of cost of making. In marketing, the factory made cheese had an advantage of from one to two cents per pound.

—At a sheep shearing festival in Genesee county, N. Y., it was stated that the sheep of that section will shear double the cleansed wool in 1867, that they did in 1830—a gain unparalleled in any other department of farming.

—A report that the rinderpest had made its appearance at Coxsacksie, N. Y., has caused great excitement in that section. A careful examination shows that the deaths were caused by pleuro pneumonia.

—A correspondent of the *Country Gentleman* thinks posts and other lumber may be better seasoned by ten or twelve hours fire drying, with proper apparatus, than by two years exposure to the air at ordinary temperatures.

—The fact that only about one tree in a hundred which are set out, stands the test and becomes useful, is mentioned by the Utica *Herald* as one reason of the steadily increasing business of the great nurseries of the country.

—To preserve peas from bugs, a correspondent of the *Country Gentleman* puts the peas into wide-mouthed bottles or jars, with about half an ounce of gum camphor to each gallon of peas, and corks tight.

—There is in Randolph, Vt., a Blackhawk stud colt that at one year and seven days old was 16½ hands (66 inches) high at withers or rump—having grown over a half inch per week ever since he was born.

—The California *Farmer* says that oranges much superior in flavor to those grown upon the islands, are being plentifully produced in many sections of that State. The business promises to be a highly remunerative one.

—The York New *Horticulturist* says that in July as the lengthening growth of suckers around apple and other fruit trees is closed, nearly all the vitality is laid up in the leaves and stems, and they may be removed with little prospect of their ever again sprouting.

—Fanny Fern says, to her eye, no statue that the rich man places ostentatiously in his window, is to be compared to the little expectant face pressing against the window pane, watching for father, when his day's work is done.

—The Dutch Government has ordered 7000 head of cattle to be shot and buried in a single week, in Holland, to prevent the spread of the cattle disease. The owners resisted in some instances, and two men were killed and two wounded by the soldiers.

—At a late farmers' talk in England on steam cultivation, one gentleman spoke of two engines which took prizes where they were respectively exhibited, and yet both proved failures in practice, though each was bought by a Lord, who had every facility for their proper use.

—Glass can be cut without a diamond by taking an old, three-cornered file, break it so as to have sharp corners, and with a straight-edge draw the sharpest corner where you would have the glass cut; then turn the glass over and do the same on the other side. With a little practice it is said glass can be cut quite well in this way.

—A contrivance for protecting horses from the effects of heat, was recently exhibited to the New York Farmers' Club, by C. Elveena, of California. It consists of a cloth or pad, on which a cup for holding water is placed between the ears, and is so constructed that a little water passes out at a time and keeps the head moist. Certificates were read from Gens. Meigs and Grant.

—Boys that ride horses to plow corn are advised by the *Maine Farmer* to remember that a horse does nearly all the stepping when he turns with the fore feet. He makes use of the hind feet chiefly as a pivot. Now just take care of his fore feet and keep them away from the hills and pay no attention to his hind feet and you will succeed nicely.

—A correspondent of the *Rural New Yorker* says that he has known a horse that went for twelve months on three legs, from ringbone, made perfectly sound by the application, once a day, of an ointment composed of half an ounce of red precipitate; half ounce blue stone; half a pint of turpentine, thoroughly mixed. Keep the hoof greased.

—There is an old farmer in Northern Ohio who gets up at daylight, builds a fire, puts on the tea-kettle, dusts the furniture, goes to the stable and feeds the horses, then calls up the folks. Having a taste for reading, he goes to a room where he keeps his books, builds a fire, sweeps out, and reads till breakfast time. This is Ben Wade, Vice President of the United States.

—Hon. Marshall P. Wilder, in a letter dated Paris, May 31, says, last week we had some frost in this vicinity. Much has been said of the incompleteness of the American Department. For myself I am disposed to speak favorably of it, and although there may not be so much fancy, and perhaps taste, in the arrangement, I believe the record, when the prizes are awarded, will redound to the honor of the American Republic.

—The following treatment of a kicking cow is recommended by C. L. Hubbs, of Oronoco, Min., in a letter to the New York Farmers' Club. First, tie her by the head; then take a rope the size of a clothes line, and place it around the cow just back of the fore legs and tie loosely; then put in a small stick; now commence milking, and when the cow kicks twist up the rope, and renew the twisting process every time she kicks. You will soon have it tight enough so that she cannot raise her hind foot more than four inches from the ground; when

she stands quiet, loosen up a little. A few doses of this will cure a cow so well that she may be milked anywhere in the yard without trouble.

—Whitewash, as ordinarily made, rubs off the walls after it becomes dry, soling clothes and everything coming in contact with it. This may be obviated, it is said, by slaking the lime in boiling water, stirring it meanwhile, and then applying, after dissolving in water, white vitriol (sulphate of zinc) in the proportion of four pounds to a barrel of whitewash, making it the consistency of rich milk. A pound of white salt should be thrown into it.

—At the Agricultural College at Cirencester, England, a field of ten acres of wheat, in a very forward state, was divided into two equal parts at the first of April and one hundred ewes with lambs put on one portion, and left there sixteen days, in which time they had eaten the wheat close to the ground. These five acres were harvested four days after the other part of the field, and appeared fully equal to the rest, but did not yield quite so much. The difference was made up by the value of the feed of the sheep.

—One of the great English landlords that own whole neighborhoods and villages, and who has employed steam plows for seven years, stated at a late public meeting that he finds that the men who are connected with the steam plow, have become a species of aristocracy among their fellows, that they pride themselves on their position, and are educating their sons for the same profession. Hence he calls attention to the fact that steam is to effect a revolution in the habits, manners, and morals of the people, as well as in the tillage of the land.

CONTENTMENT.

For me, could envy enter in my sphere,
Which of all human taint is clean and quit,
I well might harbor it
When I behold the peasant at his toil.
Guiding his team, untroubled, free from fear,
He leaves his perfect furrow as he goes,
And gives his field repose
From thorns and tares and weeds that vex the soil.
Thereto he labors, and without turmoil
Entrusts his work to God, content if so
Such guerdon from it grow,
That in that year his family shall live;
Nor care nor thought to other things will give.

—*Song of Fortune, by Guido Cavalcanti, an early Italian poet.*

—Melilot clover (*Melilotus Leucantha*) is recommended by an Illinois correspondent of the New York Farmers' Club, as the best plant for bee pastures. The plant grows rapidly, often attaining the height of from six to eight feet, and shades the ground completely. The tap root grows to considerable length, and is seldom out of reach of moisture. *Early frosts* injure the blossoms but little, and even when wholly destroyed, the plant is again in full bloom in the course of three or four days. Bees can work on the blossom in this latitude, thirty miles west of Chicago, one hundred days at least, which is time enough to give every good, strong hive of bees a surplus of fifty pounds. Ten acres of this clover, it is thought, will give full employment to an apiary of one hundred families.

—Speaking of two adjoining farms, one of which was well cultivated, every field being clean and in fine condition, the other filled with thistles, whiteweed, thoroughwort, &c., a correspondent of the Ohio *Farmer* says: If I keep a dog and he jumps over my weed-growing neighbor's fence and kills a half starved sheep, I am accountable for the damage, and the sheep owner is looked upon as a deeply injured person; while at the very time, he is seeding my fields with the most noxious weeds that will cost me time and money to eradicate, yet I have no redress.

—M. W. Leland, of Rochester, Minn., informs the New York Farmers' Club that the bee has no more to do with the mechanical construction of its comb than has a fowl with its eggs. Bee comb is the oil extract of honey, and instead of its being mechanically made it grows (!) In well-fed and well-conditioned swarms, where they remain in contact for any length of time, the temperature being sufficiently high, comb commences to grow, and the bees cannot help it. It is the perspiration or secretion of this oil from the bee which cools and is naturally formed into comb cells, and the size of those cells depend on the linking of the bees, whether at the first or second joint.

BUYING AND MANUFACTURING WOOL.

Mr. William Hayden, an experienced wool manufacturer of Auburn, N. Y., attended the Wool Growers' Meeting at Rochester, last May, and on being called upon made some very sensible remarks upon the wool trade. In consequence of these remarks wool growers and others have since addressed more letters of inquiry to him for further information than he has time to answer individually. He therefore condenses his replies and explanations into an article for the *Rural New Yorker*. We think he demonstrates very conclusively the injustice of any uniform price, or any fixed rate of shrinkage for unwashed wool. Though all his views may not be endorsed by wool growers, we think his communication will be read with interest. The resolutions referred to were published in the Weekly FARMER of June 8th, and in the Monthly for July.

"Wool buyers are asking me why I do not endorse the resolutions adopted at their convention held in Rochester, April 19th, 1867. To them I would say that I consider some of their suggestions good, while others are entirely superfluous, and such as no buyer or seller will adhere to longer than for his interest. If Mr. A. or B., although a good judge

of wool and careful buyer, can make more money by the purchase of a lot of wool with strings forty times around each fleece, than he can by the purchase of another lot with strings only twice around, he will prefer to take the lot with the excess of twine, all resolutions to the contrary notwithstanding. On the other hand, if Mr. Farmer thinks that his wool will bring him more without strings, he will so put it in the market.

In regard to unwashed wool, one-third deduction is as near what it should be on the average as any figure; but I hold that no fixed rule can be made that will do justice to all parties,—for while A. may have wool that should have a deduction of at least one-half made on it, owing to an excess of yolk and dirt, his neighbor B. may have so kept his sheep that a deduction of one-fourth might be more than should be made. Every buyer should be a good judge enough of wool to make his own rules to govern his purchases. Many, in allusion to a statement made by me at the Auburn meeting, have asked why is wool from sections where the water is soft cleaner than that from limestone or hard water sections? This question I might answer by asking another, (as I only referred to washed wool,) Why is soft water better than hard for any washing purpose? In answer to inquiries why wool can, as I stated, be purchased in Michigan to better advantage to the manufacturer than here and in some other sections, I wish only to be understood as referring to buyers who are well posted and who discriminate between a good and bad conditioned article. Wool there is all taken to market before being sold, and he who discriminates most gets the best, while an indifferent buyer gets what the first does not want, at one or two cents per pound less, while the actual difference is from three to eight cents per pound. Wool raised on sandy soils, like those of nearly the whole of Michigan, is generally more free from animal oil than that which is grown on heavy or clay lands. I have also found that wool raised on the large prairies of Illinois has less strength than Michigan, Ohio and Eastern State wools. I will not now try to explain why this is so, but leave the question for some future occasion, or to some one more able than myself to offer the correct solution. I will only say that it is a fact which I have noticed in an experience of more than twenty-five years in manufacturing. Why should tags and unwashed, dead wool not be put inside of fleeces? For several reasons; among which is the one that the purchaser can form but a poor idea of what he is buying, as all is hid from view and he is obliged to depend entirely upon information obtained from the seller as to the amount thus put in. I find such information is not at all times to be depended upon; and when detected, he claims that he knows nothing about it, and charges all upon the shearer, the boys, or the hired man.

Old wool is worth more than new for some reasons, among which are the following: It takes color much better, especially where bright and fancy dyes are required; it works better and wastes less in carding; and it makes firmer cloth than can be made from the same quality of new wool. If two or three years old it is all the better.

Several have made inquiries about the use of shoddy, of what and into what it is manufactured. Although I never owned or used a pound of it, I have seen much of it made and used. Shoddy is made from old rags which are torn by machinery for that purpose, (not, as some suppose, of Yankee origin,) and are thus brought back to wool much reduced in length and strength. It is mixed with wool before carding, and thus becomes thoroughly incorporated with the fabric, and must of course lessen the value of cloth for service in proportion to the amount used. Another article much used in the adulteration of cloth, and the use of which I consider worse on the part of the manufacturer than the stuffing of fleeces with dead wool by the farmer, is termed shearings. It is made in all factories, and is largely imported from Germany and France. It is felted into cloth while being fulled, and is merely an outside covering which is soon found at the lower part of the garment, between the outside and the lining. This is supposed by many to be shoddy, but is much worse and can be detected by rubbing the cloth over white paper."

TALK ON WORK, HEAT AND HEALTH.

Workers in the fields—strong men and sturdy boys, toiling beneath a blazing sun, and exposed to rain and chill—let's have a talk together about work and health. Not a *fussy* talk, like a set of fidgety nervous fellows, afraid to stand up square lest some of the inside works give out; but just a word of practical common sense. (Common sense, by the way, is rather *un*common.)

There's a good deal of work to be done in the six months ahead that can't be got round, or pushed aside, unless you like sheriffs and red flags. If the old farm is to be kept, and to gain in value, this work ahead must be met and done up. For three months we shall have some *awful* hot days, with burning sun and sultry air, "muggy," as they used to say, "down East." Thunder storms will come up suddenly, wetting you to the skin, and with raw winds that check perspiration sooner than is healthy; and a damp, chill day, now and then, in between these *scorchers*, to say nothing of fogs and dews. But this work is to be put through, blow high or low, and it's a good plan to start and go on in such fashion as to hold out strong and come through sound and bright.

It may be well to "take an account of stock," as merchants say,—we mean stock of bone and

muscle, and nerve, and will-power. Every sensible man knows about what he can do, and not break or weaken his powers; settle that, and then *don't over-do*. Many a man (and more boys) just wrecks himself needlessly in ten minutes, and is never the man again he was before. When you feel you are up to your highest mark, *stop;* and stop before you get there, save in rare emergencies. It's well to feel that you have a reserve force, and could "let out another link."

Look out for the sun. He's a fiery fellow, and sometimes when your system may lack positiveness from overwork, he'll send a hot shaft right through you. Don't be careless or foolhardy, that's all. The "boys in blue" all say that the best soldiers took no useless risks, and were therefore fresh and right when the sharp work was to be done.

If you have a feeling come over you that the heat is *going through*, take to the shade without any foolish shame, for the hardiest sometimes falter, and far better one hour's care than months or years of weakness from sun-stroke—*coup de soleil*, as the French say. Keep a firm will, for that has great power over the body; and keep the system in a positive condition, with an overplus of vital force to meet and master heat, or cold, or work, by rational care in your habits: but, when you feel that the vital forces are too weak, or too much taxed, yield for the moment and recuperate.

Don't drink too much, no matter what it is, but rather a little, often, slow, rinsing the mouth well. Be careful about ice-water. Some ginger and sugar or molasses is good in your water. Home-brewed ale of the best sort may help. As for spirits, it's too fiery, in whatever shape, gets up too much fever, too high pressure and makes the boiler burst. We've worked in hay fields when sealing wax would be soft as putty, and mowed away hay under the barn roof where it was hotter than any spot on this earth, and went through it without the *ardent*.

Beware of getting hot and tired and standing in a chill draft of air, especially if it comes on your back. That heat and work has lessened your vitality, and put you in negative condition, so that outer forces control you easier, perspiration is checked and sad mischief done before you think. Keep your face to the wind when you stop to rest, for the resistant vital forces emanate from the front more than the rear, and he is a wise as well as a brave man who faces exposure as well as danger.

Don't bolt a hearty meal in hot haste and rush out to your work, but get a little rested, then eat moderately, yet enough, and go to work fresh. Dyspepsia and its kindred horrors come often from eating full meals with the system overtaxed and heated, and no vital power left for digestion. Keep cool; the more to be done the more need of self-possession, that you may be master of the situation.

Don't eat heaps of meat and drink gallons of rank coffee and strong tea, with a blind notion that you must have hearty food. Your bread or beans, pound for pound, has more nutriment than your beef, and the water don't clog up the system like this black coffee, or rack the nerves like strong tea.

Meat has more stimulus than bread, and a share of this is well, but not in excess. Eat meat, vegetables, fruits, &c., and drink moderately. Keep the system open and all evacuations easy and natural, and save fevers and congestions. Take less meat in very hot weather. Judge for yourselves, but keep all firm, and trim, and cool, and open, in the internal department, and you'll be fit for a good, long pull.

Bathe often, *but never when hot or tired.* At night a hand-bath all over, if not too tired, and in the morning you are fresh, and it is always safe. It helps greatly through the heated season.

All this, and much more in the same way that you will all think of, can be done, and avoided, sensibly, quietly, and without fidgeting, and rely on it, will help through all the exposure, make work a welcome task, and land most of you, strong in body and clear in mind, on the cool edge of next winter's snow banks.—*Rural New Yorker.*

ECONOMIZATION OF WASTE MANURE.

The following account of the modes which have been adopted in Paris to promote the health of the people, and to utilize night soil, &c., for manurial purposes, is communicated to the Chicago *Farmer*, by its intelligent correspondent at the great Exposition.

All the night soil and refuse matter of this great city were formerly cast into the sewers and forced into the river Seine, rendering alike unhealthy the exhalations from the surface of the streets, and the waters of the river—an entire waste, and a source of disease. Succeeding this, up to the year 1850, all this refuse matter was kept from the sewers and conveyed to *Parc de Chaumont*, where it was converted into *poudrette* and made use of as manure; but this becoming too great a nuisance, it was done away with, and until three years ago, all thrown into an immense subterranean tunnel, ten kilometres in length, and forced by means of steam pumps to the forest of Bondy, about four miles distant from any human habitation. At present the offensive matter from about fifty thousand houses out of the seventy thousand of Paris, is conveyed to this point. It is conveyed to the tunnel by scavengers, in hogsheads; about seven thousand hogsheads per day are transported. Previously to being manufactured into *poudrette*, it is all raked over by hand,

the men taking out all jewels and other valuables it may contain. The men, about two hundred in number, thus engaged, gain, each, about four francs or eighty cents per day, which, I believe, is all the compensation they obtain.

A large amount of the night soil from the balance of the houses of the city, including generally what is called "New Paris," is manufactured within the city limits—yes, even in this cleanly city, where not even a sheep can be slaughtered without subjecting the butcher to severe punishment; and, in reality, it is no nuisance; its odor is not perceptible twenty yards away. The refuse is taken by scavengers, the owners of houses paying them for the work, in closely-covered, sheet-iron jars placed in the *cabinets* of the houses, and conveyed to this factory. Here the solid is separated from the liquid matter; the solid part is thoroughly mixed with lime slaked by 50 per cent. of its own weight of liquid (urine is preferred to water for this purpose); a sort of basin is formed by this pulverized lime, into which the jars are emptied, and the work of mixing commenced. In five minutes the work is completed, the offensive odor gone, and the manure dry and ready for shipment. The process is patented on the continent and in the United States.

The product finds a ready market. It is considered especially valuable for all root crops, and particularly for beets. For wheat and the small grains generally, it is not directly applied. These crops follow beets manured the previous year, with good results. It is applied, it is said, at the rate of about fifty bushels per acre. The average amount produced at this establishment is about five hundred bushels per day, or 150,000 bushels per year of say 300 working days.

It has been estimated that if all the waste of Paris could be thus utilized, it alone could fertilize nearly 300,000 acres of land, and that all the cities and towns of France could keep up to the maximum of fertility over 8,000,000 of acres.

DAIRY COWS.

Select and keep the *very best only*. A good cow, well kept, is profitable. Poor cows are unprofitable. My own experience in selecting cows for dairying or furnishing milk to sell, is to select good wedge-shaped animals, heavy hind quarters and tapering towards the head, with light heads, long faces, and usually small wax-colored horns; also, slim necks, small tails, capacious udders, running well forward, milk veins large, teats good size, rather long and set well apart. I care not for breed or color. It is all humbug for *dairy profit*. (*Breeding stock* is another story.) I think it would generally pay well for large farmers, say those who keep from twenty to thirty cows, to raise some five to eight or so of their best heifer calves each year, from their very best cows, and from a bull which you know to be from a good milking family. By so doing, and by selecting the best only to keep from the heifers you raise, (when they have their first calf,) you will in a few years have a better herd, and a better paying herd of cows than you will be able to buy. As to color, I care but little about it, so long as a cow has a good yellow skin, a stripped hoof and a wax-colored horn. If her hair is soft and silky, I care but little about the color of it. I have noticed but little, if any, difference in the quality of milk between "Old Brindle', and "Little Red," while the "Roan cow" makes as good a calf as either, and holds her milk as late in the fall. The boys think "Old Topsy," the *brown* cow, will beat the whole flock; but for the "season through," I should as readily bet on "Annie Laurie," the pied cow. So you see that color is all a fancy, save in the color of the teats. I should prefer colored to white, as being less likely to chap or crack.

As to the profits of a cow, much depends on the milker. Some men are rank poison to stock any way; and such should never attempt to milk. A good milker will always treat the cow gently and pleasantly, milk fast and tell or listen to no stories while milking, and be sure to get the last drop in the udder every time. I consider a cow in her prime (all things considered) from five to ten years old. Some cows hold out much better than others, as with men and horses; and are really as young to all intents and purposes at twelve years, as others are at nine or ten. Never keep a cow through the winter after she gets to going down hill, or kill a superior cow on account of her age, if her teeth are good, and she is all right, without any signs of deterioration. Cows should be milked regularly, and by steady milkers.—*John Dimon, Pomfret, Ct., in Farm and Fireside.*

NO PRESENT RESULTS FROM THE NEW WOOL TARIFF.

The recent tariff has not yet advanced the prices of wool, and the reason is obvious. From the time of the first concerted action of the manufacturers and wool-growers for a revision of the tariff, fifteen months elapsed ere it was consummated, when it might and should have been within the first three months. This unaccountable delay afforded ample opportunity for the importation of vast quantities of both wool and woolens, and a perfect glut in our markets existed at the time of the passage of the act in March last. Other causes have existed to prevent the effects of the tariff thus far, and cannot probably be suddenly removed. The farmers' crops of last year were more or less short throughout our whole country, thus causing a depression of business generally, for it always follows that when the great farming interests of the country are

prosperous, all others flourish; and, *vice versa*, when they are depressed, a languishing condition ensues. Agriculture is the basis, the foundation of all other interests; it cannot be depressed without the sympathy of all others. The farmers are the great consumers of manufactured goods; if their means are curtailed, and they find it difficult to purchase, and *must* economize to the utmost to live within their means, the manufacturing and trade of the country will most sensibly feel it.

This state of things has existed for the last nine months, and now exists, and must continue until the marketing of the present growth of crops, which, by present appearances, will afford some relief, and help to clear the markets of the surplus of woolen goods, which is causing the low prices of our domestic wool. The manufacturers and importers should have foreseen, when in anticipation of an increase of duties, they were straining every nerve to flood our markets with foreign wool at the nominal duty of 3 to 6 cents per pound, that a reaction would ensue; they ought not to have expected that they could sell these goods, made from cheap foreign wool, at a great profit, in competition with the foreign importer of goods, while they were leaving the domestic wool on the hands of the grower, unless he would sell at much less than the cost of growing it. By this operation, combined with the other causes named above, the farming interest, with its onerous taxation, has been so cramped, that it has been but a limited and poor customer for woolen goods, and must continue to be so until a change can better its condition, and place it at least where it can receive a new dollar for an old one.

Every prudent man will wear his old coat another year before he will run in debt for a new one. But I would not be too hasty in selling wool at present prices; it does not pay the cost of production. My surplus sales are almost wholly confined to this article, and where the help must be hired at present prices, taxes paid, with all other contingencies, I know the fine qualities, well washed, cannot be afforded for less than 70 to 75 cents per lb.

Of all the protective tariffs we have had in this country, none has had an immediate operation. There have ever been depressing causes that have postponed and delayed action for a while, and so it is now; but the time will and must come when prices will advance, and much more, in my judgment, than to pay the interest for holding. The duties on woolen goods are higher now than ever before, and they should be, for the government excise taxes are much higher than ever before, and a protection against the foreign article should be had, in order to give us a fair competition in our own markets. The tariff of 1828, the highest we ever had except the present on woolen goods, and higher on wool than now, had no material effect on prices for more than two years. The country had over-traded, imported largely over the means for paying, and the English manufacturers seemed determined not to relinquish the American market, and crowded their fabrics upon us, even at a loss to themselves, hoping to break down and destroy our manufacturers, knowing that they were then in their infancy, and if they could not be crushed, would sooner or later become their rivals, and hence these strenuous efforts to annihilate them; and from the vast amount of woolen goods shoved upon our markets for the last twelve months by the foreign importers, it savors a little of a repetition of the old game; but we shall survive it, as we did before, and come out all right in the end.

Whoever remembers the operation of the tariff of 1828, will take courage and not be disheartened at the present aspect of the wool and woolen trade. The trade was at a low ebb, and so continued for a long time. Domestic wool was a drug upon our hands in 1829, '30, and many began to doubt the efficacy of tariffs, and John Randolph proclaimed from his seat in Congress that he would travel forty rods out of his way to kick a sheep. But business revived, the woolens were sold out of our markets, prices improved, and in 1831 wool advanced to 60, 70 and 75 cents per pound,—nearly 100 per cent. in less than three years.

I do not claim any such rapid advance under the workings of this tariff, but I do claim that no inconsiderable advance will take place within the next eighteen months, and before sacrificing ten to twenty cents per lb. on what we now hold, I would hold a while longer, unless necessities are urgent.—*J. W. Colburn, in Co. Gentleman.*

Mt. Vale Farm, Vt., July 14, 1867.

WARM DRINKS IN HAYING TIME.

Some years ago, a medical gentleman of high repute published an article in the newspapers of the day, urging upon all farmers and others obliged to work much in the open air, to avoid the excessive use of cold water, and use instead warm drink. We all of us know that many deaths and much sickness occur every year by a too free use of cold water during the excessive hot weather of summer; and we are convinced, not only from nature's reasonings, but from experience, that warm drink is less liable to prove injurious, and will quench thirst more satisfactorily than ice cold water. We therefore urge all housewives to keep the teapot on the stove when cooking, and send to the men in the field a quantity of warm tea, with milk and a little sugar added. This will be more nourishing than water, will satisfy thirst more completely, and men will not need to drink of it so often as of water, and will consequently receive no injury from taking it. In hot weather the interior system needs to be kept at a temperature equal with or above the temperature without, but the free use of cold water chills the system within, hence the inju-

ry. Men will stand the heat much better if they partake of warm drink, than if they imbibe freely of cold water.—*Maine Farmer.*

LETTER FROM THE FARM.

Among the Farmers.

CONCORD, July 22, 1867.

JOHN ADAMS' recommendation to ring the bells, fire off crackers and big guns on the *Fourth of July*, has been lived up to, to the very letter, for a good many years. Perhaps that was well enough when cities and villages were few and far between, compared with what they are now,—when there were not so many children in the streets whose clothes might be set on fire by a rollicking rocket, nor half as many horses to be frightened and run away with, and break, the limbs or necks of a carriage full of people!

It certainly was refreshing on the last 4th of July, to find a quiet day and be able to drive about the town without critical danger of being run away with, or upset by a frightened horse.

After all, I am inclined to think some of the farmers of this town were as patriotic in visiting and examining the farms of each other, as they would have been in the loudest demonstrations of drum and trumpet, big guns and crackers.

At the close of their winter meetings, the Concord Farmers' Club, voted to spend the 4th day of July in visiting as many of the farms of the members as time would permit; and in accordance with that vote commenced their perambulations by driving to the farm of

Mr. ABIEL H. WHEELER. Most of the land which he cultivates is rather moist, cannot be conveniently drained, and requires considerable skill to manage it so as to get remunerative crops. With skill and industry, however, he has succeeded in every crop he has undertaken, with the exception of apples. He now has a large number of apple trees, very vigorous, and of beautiful form, which make an abundance of wood every year, but have never fruited. A portion of the land upon which they stand has been heavily cropped with corn, strawberries, asparagus and potatoes, in the hope that the trees would cease their growth, in part, and produce fruit. But no effort in that direction has been successful, so that he has cut down an acre or two of them as cumberers of the ground. The remainder will probably share a similar fate.

All the crops on Mr. Wheeler's farm were clean and promising. In strawberries he had *three* acres; in asparagus, *two* acres; in pickles, *five* acres; in watermelons, *one* acre. He keeps quite a large stock and "makes" milk for the market, but as the cows were at pasture I did not see them, and made no inquiries as to quantity or profit.

The next call was at the nursery grounds of Mr. ALBERT STACY, the worthy post master of this town—a gentleman who loves flowers and farming as well as good old Izaak Walton did "virtue and angling." A year or two since he purchased a "peat hole," with peat in it, and some scrub oak and sandy plain land attached. The hole was drained and peat thrown out; scrub oaks cut and burned, and their ashes mingled with the peat and spread upon the land, and now it is covered with the finest three acres of early Valentine beans that I ever saw. Along side of them are 1¼ acres of pop corn, 5 acres of potatoes, 6000 peach trees and 1000 pear trees, together with other varieties of nursery truck. He has made more than two plants grow where only one grew before, and, one of these days, is to tell the Club whether he has done it *profitably* or not. Our next call was at the farm of

Mr. CHARLES A. HUBBARD, and a large farm it is, and well tilled, although large. We found him *patriotically* getting in hay! but he left all and followed the club. He cuts some seventy-five tons of hay, keeps a large stock of cattle, makes milk for Boston, rakes some hundreds of bushels of cranberries, makes money at farming and knows how to be liberal with it when earned. Had I not been called away, I should be more precise in describing his operations. His buildings are spacious and in excellent order, and the pair of bays and comfortable carriage at the door, were indications that the family *ride* sometimes as well as work.

Mr. JAMES P. BROWN has a large farm, and one capable, I think, of producing more for the same number of acres than any other in town. One compact field directly behind the barn contains eighty acres. A portion of this, where it seemed to need it, has been underdrained, which has wrought wonderful changes on it. The crops on it were very fine. One acre in rye was remarkably stout. He has

three acres in corn, and if we understood him rightly, thirteen acres in potatoes, two and one half in pickles; he cuts some fifty to sixty tons of hay, winters twenty-five to thirty head of stock, and was then making fifteen eight quart cans of milk daily. He keeps fifty fowls, which yield, by careful account, a net profit of *one dollar* each per year, besides the convenience which they afford in eggs and flesh.

Our next "trot" was to the farm of Mr. ELIJAH WOOD, the man who hauled half a cord of wood, or less, from the nostrils of his ox last winter! He also has a large farm and has twenty-five acres under cultivation this summer, which is designed for a pasture next year. He has thirteen acres in corn which was sown with grass seed at the time when the corn was hoed the third time. Three acres of this is in pop corn, and was manured with leached ashes and superphosphate of lime at the time of planting, and a top dressing of the same at the time the grass seed was sown. This was done as an experiment. Seven acres in potatoes were mainly manured with ashes, superphosphate and salt. Three acres in cucumbers for pickles, and half an acre in peas.

Mr. Wood informed us that a portion of this land had not received a load of manure upon it since his remembrance, and that he was experimenting in various ways to learn whether a light, sandy loam land may be profitably improved by the use of special manures, when cattle manure cannot be obtained.

This is a most important point to be settled, and one which will prove profitable to farmers, whether it be in favor of the use of special fertilizers or not.

Mr. Wood has heretofore made valuable experiments on his farm, some of which he has communicated to your columns. All the other gentlemen whom I have named, are occasional contributors to the FARMER. They are practical, skilful, systematic men in their vocation, and what they state to your readers is worth an attentive consideration.

The perambulations were continued in the afternoon, which I could not make it convenient to attend. The last call of the Club was at the farm of the writer, for an account of which the reader must look to the Secretary of the Club, who has a sharp eye and an easy going pen.

The attentive reader will see from the above statements, how rapidly an old-fashioned farming town, eighteen miles from Boston is being converted into a *market garden*. It is only a few years since West Cambridge, (now Arlington,) Belmont, and a few other towns in the neighborhood of the city, furnished nearly all the early vegetables that were consumed there. Now these supplies come from nearly all the towns within a radius of twenty miles of Boston and the other cities near it,—those towns having a railroad probably supplying by far the largest portion.

In addition to the asparagus, strawberries, lettuce, and other salads, we have twenty-five acres in grapes, which are becoming very productive, and whose crops mostly go to the Boston markets. This phase of farming, called *market gardening*, is being gradually extended each year, and if manure can be transported from the cities at a paying cost, there will soon be a large business done in this branch of cultivating the soil.

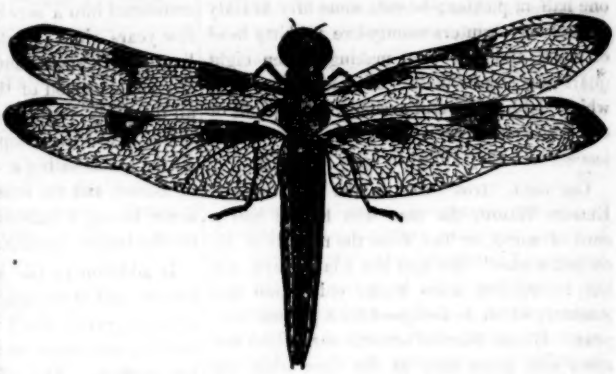
As the cities of Cambridge and Charlestown increase in population and business, the lands heretofore occupied for raising "garden truck," will become too costly for such a purpose, and cheaper land further back must be taken. So it will be, we presume, on all sides of the cities, and the farmers who have heretofore raised only the grosser crops will turn their attention to fruits, vegetables and flowers.

Similar visits in other farming towns would produce, I think, valuable results; farmers would make more money for them. Try it and see. Truly yours. SIMON BROWN.

MESSRS. R. P. EATON & CO.

WASHING MILK CANS BY STEAM.—Homer A. Kidd of Walden, Orange County, N. Y., writes to the *Utica Herald* that in order to get good, pure, sweet milk at his factory, he washes with steam all the farmers' cans, both night and morning. Forty quart cans are used, the same as are used on the railroads to send milk to the city. He thinks this extra work pays four-fold, for he finds he cannot trust the farmers to keep their cans sweet and clean. He has learned the importance of having good milk in making a prime article of cheese. With this washing of the cans, and the farmers having tin pails to milk the cows in, he gets the milk in much better condition.

DEVIL'S DARNING-NEEDLE.



This insect is known throughout New England as the "Devil's Darning Needle," and many children suffer much from fear of its sting. They are sometimes told that if they say naughty words this "critter" will come and sew up their mouths. This is not only a regular ghost story, but it is a slander on the poor innocent Darning Needle, which, in fact, can neither sting nor bite, and may be handled by the most delicate fingers with perfect safety. Still many children are really afraid of it, and watch its flight with emotions of pain and dread, instead of admiration and pleasure, which it should excite. It is not only entirely harmless, but it is as useful as it is busy and active. If the children, in place of running from it, would invite it into their houses, instead of being pierced by its ugly looking javelin, they would wake up in the morning with fewer "skeeter bites," and their mother's breakfast table and their own noses would be less troubled with flies. But the poor thing has got a bad name, and so it is shut out of our dwellings and out of our society.

But, laying aside our fears and our prejudice, let us some calm summer afternoon, at about five or six o'clock, sit down on the bank with our face to the west and a hill of corn or some other growing plant between us and the setting sun. Now look! What do you see? Why, there is the Dragon-fly poised in the air, apparently as motionless as death, with wings outstretched, just as they are represented in the engraving above. What can he be doing, so motionless, hanging in the air! He is—but he is gone! What could have struck him out of existence so suddenly? Look on the other side of the corn. O, there he is, just as still as ever. He is watching his prey. Now look between yourself and the sun, and you see insects darting off from the hill of corn, so small that the eye would not discern them unless in that peculiar light. They dart from the corn, make a few gyrations and back again, that being the boundary of their travels, and, alas, too often the boundary of their little life. The dragon-fly does not rest suspended in the air without an object—and every time he passes back and forth, one of the tiny dwellers upon the corn goes to make up his evening meal.

Will not these suggestions induce many to study the habits of, and become more familiar with, the beautiful and harmless dragon-fly?

For the New England Farmer.

WHY THE BOYS LEAVE THE FARM.

It is well known that in the farming portions of New England the farmer's sons, in perhaps most instances, forsake the occupation of their fathers, and leave the old homestead to be tilled by strangers. Many reasons have been given for this unfortunate circumstance, none of which seem to me to go to the root of the matter.

The true reason lies here. Regular, legitimate farming pays perhaps the smallest profit of any business requiring equal capital and skill; hence, active young men are apt to go where they can or may do better. The profits of a farm arise from two sources: interest on the capital invested, and return for the labor expended. The first will be low, because of the entire absence of the element of risk; and the second will be moderate, because it is the return for—in great degree—unskilled labor. Moneyed men will tell you that the interest paid for the use of money is regulated by two considerations,—the actual worth, and pay for the risk the lender runs of losing the principal. The way the low interest on the value of a farm is brought about is by its cost being high relatively to the profit realized. Property is, of course, valued high or low, according to the

profit which it yields; but where the liability is strong that the whole may be lost, this value will stand at such a point that the profit may constitute a large per cent. upon it. On the other hand, where the property is of a nature which must, without fail, yield an income while wood grows and water runs, the price rises so as to leave for profit only the bare worth of the money invested. This last is eminently the case with money put into a farm.

Again as to the value of labor. It is not meant, of course, that small skill is needed to manage a farm well,—the above remarks show plainly that unusual expertness is requisite to secure a handsome return,—but to do fair, average farming, to reap reasonable crops, calls for little more skill than to wield the hoe and turn the furrow. Such labor cannot command high wages. These observations, if carefully considered, will explain why it is that the boys find it such slow work to pay for a farm from its own profits. All perfectly safe investments accumulate slowly. Think how long it would take for the English three per cent stocks to double themselves, while money lent on "wild-cat" security, at twenty-five per cent., increases very fast, *if at all*. This is the whole mystery.

Do the boys who read this, think it small comfort to be told they can make but little by farming, even if the reason therefor be given? Yes, there is comfort in it. Open the eyes of your mind, see all these things just as they are, appreciate all the advantages and disadvantages of both sides, and then choose; and having chosen, go ahead like a man.

Now, boys, let us look into it. If you stay on the farm and do not load your land with expensive, fancy improvements, and run in debt for them, you will be sure of a living for yourself, wife and children,—and the more of these "olive branches" you raise the richer you will be,—so long as the world endures. The ground will always yield her increase, and if you sow diligently you will reap abundantly—a little more of this and less of that in any given season perhaps—and the gathered crops you can eat, or you can sell them without asking the favor or patronage of any one. You hold the staff of life and all must come to you. Wars and rumors of wars, financial ups and financial downs, interest you simply as the news of the day. For at the bottom of the whole business is the fact, that you can always, at a pinch, live entirely off the products of your land.

The shoemaker starves unless some one will give him food in exchange for his wares; but you are not only sure of a return, but that return you can put in your own and your children's mouths, and meanwhile laugh moderately at the panics of your neighbors.

But suppose you resolve to leave the farm and seek your fortune elsewhere. You instantly become more or less dependent on the favor of others; and, upon investigation, you will discover that the higher the prizes which your chosen profession offers, the less is your chance of winning them. You look to the law, perhaps. A quarter of the members of that profession fail utterly, and either die in the midst of disappointment or seek other means of support; perhaps one-half manage to live; an eighth do well, while the rest run up from well to very best, acquiring wealth and distinction. Do you wish to be a merchant? At least one-half who venture into trade fail to make way for themselves; of the other half most do fairly; a few become "merchant princes," unless previously killed by hard work and care. Thus it is, wherever we may look. If you must needs be rich and will take the risks connected with the pursuit of wealth, then the farm is no place for you. You will never do its work with a hearty good will, and had better not try. On the other hand, do you wish to shun the uncertainties of life, and desire to achieve by diligence perfect independence of mind and body—preferring certain moderate success to the perplexities and cares, the ups and downs of the outer world,—then get a farm on the best terms you can, get a help *meet* for you, raise up a family, and consider yourself, with reason, one of the princes of the earth.

If this essay has interested and instructed you, I may offer some hints by which you may be able to get more for your labor on the farm. A.

Claremont, N. H., 1867.

REMARKS.—It is very common to assume, as our correspondent does, that the young man who has had an apprenticeship of thrice seven years in the use of agricultural implements should be ranked with the unskilful laborer; is it correct to do so? Put an axe, a scythe, a hoe, a sickle, or even a bob-sled into the hands of a really "unskilful laborer" and place him in the field or wood-lot alongside of a Yankee farmer's son, and then see if the latter has not the full advantage of "skilled labor."

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.—No. VI.

Cultivation of Tobacco.

I am ignorant of the exact time of its first culture, as a field crop, in this section, but am under the impression that it dates back twenty or twenty-five years, as I have seen fields that have been referred to as having been used for growing tobacco that period of time. Much experience is thought necessary to success in this as in all other kinds of business.

In the selection of a proper locality for a seed bed, a sheltered place with a southern in-

clination is sought for, in order to bring forward as early as possible the plants for setting. A failure to do this often results in a failure at the end of the season, by reason of frost. The seed bed is highly manured, and weeds are sure to be on hand as soon or sooner than the tobacco, and must be picked out when large enough to be laid hold of with the fingers, or they will overtop and destroy the plants. In preparing the field for setting, no great diversity of practice prevails. Some, and I think most, plow in their manure the first time plowing, two or three weeks previous to the last plowing, which is usually just before time to set the plants. This method ensures the destruction of many weeds as well as the thorough incorporation of the manure with the soil, which is very desirable not only for tobacco but all other crops.

The harrowing comes next in order, then the laying out in rows. Some prefer the flat culture, others ridge up. The hills are prepared with the hoe. Many, of late, use some fertilizer in the hill. Phosphates are preferred. Fish guano is also extensively used for this purpose, and is also spread on, either with or without composting with muck or loam. I used the past season several tons of it, composted with plaster, to fix the ammonia, with satisfactory results.

As soon as the plants are set it is necessary to be on the constant watch for worms. The cut-worms are often very troublesome. A single night's work of theirs as revealed by morning light is sometimes really surprising. Resetting must be persistently kept up until too late to hope for the maturity of the plant. As soon as, and even before the cut-worm is out of the way, the large, green worm, that some call the tobacco worm, comes upon the scene of action, and if allowed to have his own way, would soon relieve the cultivator of all further trouble with his crop, by rendering it worthless for market. The leaf, being used for wrappers for cigars, must be free from holes and fractures. A single worm will, in a very short time, destroy several dollars' worth of plants. Each day, if plenty, they must be looked up. All other work must give place to this. The weeds also must be kept down and clean culture secured. All cultivators seem to recognize the tyrannical behests of this crop and patiently submit to them.

Two to three weeks previous to cutting, the topping is done, and the suckering attended to. Experience is necessary for doing the former. There is said to be a leaf that indicates where the top should be severed. Care is requisite in handling when putting in and hanging up for curing, lest the leaf should get torn. It must remain on the poles a longer or shorter time according to the weather before it is *safe* to strip. If properly housed, many leave it until spring before doing it. A damp spell or a rain storm is required to limber the leaf so as not to break in handling. Often delays of several weeks occur from the absence of such weather.

For a few years prices were very remunerative, and a ready market at hand. A great depression in the market exists at present, and a feeling of discouragement now prevails. A prominent farmer here told me to-day that he would not give ten dollars an acre for farms, if the tobacco crop was to be a failure in future. This feeling is quite common. The South and West are regarded as a refuge from hard work and small returns. It is well to remember the adage respecting getting out of the frying pan into the fire. K. O.

East Windsor, Conn., 1867.

GROWING RYE STRAW.

The making of white print paper from rye straw was commenced at Fort Edward N. Y., in 1857. At that time, rye straw could not be procured in sufficient quantities to keep one mill running. It takes two tons of straw for a ton of paper. The farmers began to grow the crop in Washington and Saratoga counties, and now ten large mills are in operation, using in the aggregate 15,000 tons annually. The straw at these mills, for the past five years has averaged less than $15 per ton, and $225,000 are brought into these counties for straw alone. Then there is the value of the grain. It was a poor farming district before the introduction of rye growing, and now the farmers were making good incomes. The mills at Herkimer are now using six tons of rye straw per day. Matthew Smith, of Frankfort, grew last year on an acre of land and from two bushels of sowing, 47 bushels of rye, for which he got $1.20 per bushel, and two tons of straw which were sold at $24. This makes $80.40 as the yield from one acre, which may be considered a very profitable crop. Probably the farmers of Herkimer would find it to their advantage to grow rye in connection with the dairy. The Herkimer mills are using 2,000 tons of straw annually, and are forced to get their supply from Schenectady. It comes in bales. Rye straw is worth from $24 to $30 per ton in New York city, and is of ready sale. At the mills East they pay $20 per ton for it. The business is confined to the States of New York, Massachusetts, Pennsylvania, Maryland, Delaware and Illinois. Nine-tenths of the printing paper made of straw is produced in New York.—*Utica Herald.*

—G. R. Rathburn, Vineland, Mo., 47 miles south of St. Louis, on the Iron Mountain Railroad, writes to the New York Farmers' Club that those who are acquainted in California, think the climate and soil of his section equal to the Pacific coast for the production of grapes. Five hundred gallons per acre is not considered an unusual crop, and so thoroughly do grapes ripen, that no sugar is used in manufacturing the wine.

MANURES.

EITHER directly or indirectly, manures are the motive power in agricultural enterprises—the engine which propels the vessel. Much and highly as we prize cleanly cultivation, it will avail but little on an impovished soil.

Manure contributes in one way or another, to supply nearly all the aliment which vegetation receives, and it is to those manures which are furnished by decaying vegetable and animal matters, that we are principally indebted for the fertility of the soil, and the capacity it possesses of yielding those products so essential to the life of animals, and of man.

Every thing that has once been energized by the vitalizing principle of *life* is, in itself, qualified to act as manure. When life ceases, the chemical affinities assume ascendancy, and the chemical constituents are released from the union imposed and confirmed by the vital principle, and each acts independently, and produces phenomena peculiarly and specifically its own. The inorganic particles return again to the soil from which they were originally derived, or elaborated; while those parts which are the result of organic action, escape into the air, or are absorbed by substances for which they possess affinity, and by them are preserved to be again employed in the economy of organized reproduction and life.

The waste attendant upon the decay or decomposition of organic matter, under ordinary circumstances, involves a heavy pecuniary loss to the farmer; the magnitude of which he not unfrequently increases by the improper manner in which he applies such substances when appropriated as manure to his fields and crops.

Some persons deprecate the idea that the mere gaseous products of vegetable fermentation, can be of any essential benefit to plants; yet the experiments of Sir HUMPHREY DAVY demonstrate that they are so. He filled a retort by inverting it over a mass of fermenting manure, and placed it among the roots of certain vegetables, and although nothing but vapor escaped from the beak, yet the vegetation around it presented in a very short time a surprising degree of fertility, and was far more energetic and luxuriant than that in the same field, which was beyond its influence.

It is thought by some that at least one-half of the valuable, soluble parts of all the refuse material produced on the farms of this comntry, is lost either by infiltration, which carries it below and beyond the range of easy appropriation by the roots of the vegetable tribe, or by evaporation, which no less effectually ensures its loss, by disseminating it in the atmosphere, to be borne away by the winds.

When manure is protected by roofs, or even by a stratum of mould, while undergoing the process of fermentation, a very considerable proportion of its gaseous products are preserved and retained. "Absorbents" and "fixers" should be always at hand, and not a particle of matter capable of contributing to vegetable growth should be suffered to escape unemployed.

A pile of fresh manure will shrink in weight surprisingly in a short time. It has been tested by different observers. One states that twenty-five cwt. recent dung yield,

At the end of six weeks,	21 cwt.
After eight weeks,	20 "
When half rotted,	15 to 17 "
When fully rotted,	10 to 13 "

From all these facts, it must be inferred that great care ought to be observed in preserving manure, after it is collected.

PEACHES, GRAPES, AND CURRANTS.

We had the pleasure, a few days ago, of going over a portion of the farm of Mr. SAMUEL WILSON, of Windham, N. H., and of looking at the crops upon it. For many years Mr. Wilson was engaged in the nursery business, and produced a large amount of most of the trees and flowers that were in demand in his region of country. He did so much, and did it so well, that he became widely known as a reliable person from whom to order any thing wanted in his line of business. Latterly, however, he has abandoned his general business in order to give more attention to two or three special crops. To these special crops our attention was principally turned.

He has *seven* acres, in *peaches*, *grapes* and *currants*. On these seven acres there are *eight hundred* peach trees, being set one rod apart each way. Those having stood there the longest are seventeen years old, and from that down to those but six years old. Of the 800 in all, there was not a single tree without peaches! and on most of them there was altogether too many.

On entering the orchard the first thing that struck us with surprise was, that, with the exception of a few among the oldest trees, there were no *dead twigs* or branches to be seen. The trees were about eight or nine feet high, very uniform in height, and were clothed with a remarkably high-colored and vigorous foliage.

"Why are not these trees winter-killed?" we inquired; "is *that* the reason?" pointing to a liberal *mulching* of hay around each tree.

"That is the question usually asked by observing persons, on entering the orchard," he replied.

He said the *base* of the tree, and the roots near it, must be protected from sudden changes, and in accordance with that belief he hauled *four* tons of meadow hay and straw into the orchard and placed it about the trees.

In connection with this practice, he heads the branches in, annually; not merely clipping off the ends of the twigs, but cutting off the upright branch just above where two side limbs push out; even when the upright branch is half an inch or more in diameter. This induces other lateral branches to push out below, which soon give the tree a low and compact form.

The soil of the whole seven acres is ledgy and stony, and has a sort of yellowish color. When worked, it is extremely light and friable, very productive, and Mr. W. says, sustains a drought better than heavy clay loams. All the plants growing upon it gave evidence that it contained highly fertilizing elements. Do those elements come from the stones, in a considerable degree? When the land is in grass he states that the crops are usually abundant.

Mr. Wilson has a large, and we should think, excellent farm, and in good order, but he stated to us that he can make more money from the seven acres in question, than he could upon *four* farms like his. He does not succeed, however, in getting a crop of peaches every year, perhaps not a full crop oftener than once in three years,—but a partial crop every year until the last, when he did not have a peck.

Another portion of this enclosure was occupied with grapes, wildlings, taken from the valleys around him, and a selection of the best made from a considerable number. They appeared very vigorous, had a light crop of fruit upon them, and are entirely hardy. The wine made from them, was clear, quite dark in color, and had a little of the natural grape flavor both in the taste and smell. Several ladies and gentlemen present tasted it and pronounced it the best native wine they had ever found. He makes it in pretty large quantity and sells it at $3 per gallon.

Mr. Wilson formerly paid considerable attention to the culture of the currant as a market crop, but the peaches and grapes, have absorbed his attention so much that he has allowed that pursuit to become of secondary consideration.

Evidences of his passion for trees are on all sides of his farm. Some splendid black walnuts stand before his house, the butternut lines the roadside, and young and beautiful shell-barks greatly ornament what would otherwise be waste places. All these are intermingled, in some places, with lofty chestnuts, white pines and other forest trees.

For the New England Farmer.

NEW ENGLAND ENTERPRISE.

A compact tract of 540 acres of wood land, much of which was heavily timbered, situated about two miles from West Acton Depot, Mass., has been known for many years as the "Inches Estate,"—having been held by the heirs of Henderson Inches, of Boston. Four years ago this estate was purchased by a gentleman who cleared off the wood and timber, and resold the land in lots to suit purchasers; an operation by which he is reported to have cleared about fifty thousand dollars. After the removal of the wood, the land was sold for $20 per acre,—a high price for such land, but being by the side of a public road, at a good elevation, well watered, and with a good soil, although somewhat rocky, it was in demand as pasture land.

Among the purchasers of this tract was Mr. Luke Blanchard, of West Acton, who bought 200 acres. He cleared up 150 acres of it the first year; putting 100 acres into winter rye, seeding it to grass. The other 50 acres, being too wet for grain, were drained; the ditches being so arranged that the water can be held back or let off at pleasure. Over a large part of it, timothy, redtop, and fowl meadow have come in, and where the water flashes over, bluejoint is showing itself. Those who have had experience in subduing such land will appreciate the amount of labor that must have been expended upon these 150 acres.

The writer saw this land before Mr. Blanchard commenced operations, and also while he was at work upon it. A more uninviting field of labor than the wet portion presented, could not easily be found; covered, as it was, with limbs, stumps and brush, with much of it quite

wet. Now behold the contrast! Over this whole field of one hundred and fifty acres, there is a beautiful covering of grass. Mr. Blanchard has already top-dressed several acres with loam and gravel and intends to improve much more in the same manner. A part of the grass is now cut and yields a very heavy crop,—as much as can be well dried upon the ground.

Other purchasers have also made creditable improvements. About 500 acres, in all, have been cleared, most of which has been enclosed by substantial stone wall. This large tract, varied with hill and valley, now presents a beautiful sight,—a part of it being devoted to mowing, and part reserved for cattle, who daintily crop its abundant feed.

Mr. Blanchard sold his crop of rye and straw on the 100 acres, as soon as harvested, for about $3000; and might have obtained several hundred dollars more for the grain had he kept it longer. The cost of improving the 150 acres, he estimates as something more than the income of his rye crop. He paid $4 per acre for cutting the brush the first time. The marketable value of the whole would average about $75 per acre. Supposing the whole 500 acres now cleared to be brought to the same degree of fertility with that of Mr. Blanchard's, we have nearly as much added to the value of real estate in the town as was taken from it by the sale of the timber which formerly grew upon it. The taxable valuation was about $40,000. The value of the land as improved, is now nearly equal to this, and will soon be considerably more.

In this connection I would say that Mr. Blanchard has made improvements on his other land in West Acton, that deserve a passing notice. Nine years ago he cleared and brought under cultivation a piece containing nine acres, which was then very badly overrun with brush. Two acres of it were wet and unfit for cultivation,—the most of it moderately elevated, with soil of gravelly loam. The next year he set out upon it three hundred apple trees, forty feet apart, with peach trees between,—about 1000 trees in all. The apple trees now are of good size, thrifty, and free from borers; although orchards in the vicinity have been very badly injured by them.

A plan adopted by Mr. Blanchard, and which was practiced by his father, the late Simon Blanchard, for many years, with great success, is to put strong green manure around the trunks, in the fall. He thinks that the borer is destroyed for the want of air; or, perhaps, being tender at that time of year, is killed by the strength of the manure. He approves also of the method lately recommended in the NEW ENGLAND FARMER, of placing a mound of earth around the tree. When the tree has been badly eaten by borers, he recommends banking up with earth; and showed some trees, which, having been injured so seriously as to begin to droop, he had saved in that way, and which were now flourishing and of good size. This land proved too low for the peach trees. They suffered from the winters. Mr. Blanchard says he would not set another peach orchard on such low land. This year, however, he will have a fair crop of the best varieties of the peach. The lowest part of this piece of land has been drained with blind ditches, and yields heavy crops of excellent grass. The whole lot is worth now some five times its former value. Should a favorable year for the apple come round again, this orchard will yield a very handsome return.

Another young apple orchard of three acres, purchased by Mr. Blanchard three years ago, for a little less than three hundred dollars, would now bring readily one thousand dollars; the increased value being due chiefly to judicious cultivation. The trees are now very thrifty over the whole orchard. At the time of purchase, a great many of them seemed to be going back into the ground. It was generally thought that they could not be made to grow so as to amount to anything. The land is mellow, with a warm soil, and the crops raised between the trees have paid well for all the expense of cultivation.

Another tract of land situated near his present residence, purchased by Mr. Blanchard, also illustrates the magical effect of the hand of judicious improvement. Twenty-seven acres, with the buildings thereon, were bought two years ago for $1800. A large part of it was moss-bound and unproductive; and was considered nearly worthless for cultivation, simply because it had lain for years without being tilled; the rest of it was coming up to young wood. Some of this, having been broken up, was planted this year. Upon it there is one of the most promising fields of corn we have seen this season. This land, thus improved, would readily sell for $100 per acre; and it is the intention of the owner to cultivate the whole in the same manner. He has sold the house for $900; the barn, with less than an acre, would bring $900 more. If we reckon the crops as paying the cost of cultivation,—which Mr. Blanchard estimates they will do, and more,—there is a present gain in this one agricultural enterprise of over $2500. This land, as soon as improved, will be in quick demand for building lots. It is situated in the midst of a thriving village, and the prospective value to the owner is very great.

For the last twenty years, Mr. Blanchard has been engaged in the laborious business of marketing farm produce; including not only vegetables and fruits, but calves, poultry, &c. The village of West Acton is said to be more largely engaged in this trade than any other interior town in the State. There are large apple houses here, where several thousand barrels of apples are annually stored; most of which, of late, have been purchased in other States, by the enterprising dealers of this place.

In the single article of berries, as many as 200 bushels per day have frequently been sent to market from this depot; and, of these, Mr. Blanchard has sent fully one-half. During this time, he has also carried on a large farm, employing constantly quite a number of men.

He served a full apprenticeship upon the farm in his boyhood, and prides himself upon this education as the foundation of his success. He intends, hereafter, to relieve himself from many of the laborious cares incident to his business as a marketman, and devote himself more particularly to farming.

By untiring industry, enterprise, honesty, and fair dealing, Mr. Blanchard has won the highest character in the community; and has fairly earned the fruits of his labors, which he has thus liberally obtained while yet a young man.

In speaking of these particular improvements, I would not be understood as intimating that there are not other individuals and other specimens of improvements all around that deserve notice, but being striking and very creditable instances they are alluded to as showing forcibly, what might be done in hundreds and thousands of other places in New England. Let a like energy and enterprise, backed by capital, and guided by a practical farm education be directed to the improvement of other waste places, and many thousands of acres, now lying almost waste,—some of which are to be found in almost every town, comprising much of our best soil and within easy access to the best markets,—may not only be doubled in value, but greatly increased in attractiveness. Let this be done, and our young men would soon discover here in our midst mines more valuable than those of California; situations more desirable than those which allure so many young men to exchange their New England homes for an ideal Eden at the West or South, or in some other occupation. W.

For the New England Farmer.

WASTE LAND--MOWINGS--PASTURES--IRRIGATION.

No one can travel much, even in New Eng. land, without seeing considerable waste land. By waste land I do not mean land naturally unproductive; but land naturally fertile, but which, by mismanagement, either produces nothing valuable or less than it might easily be made to produce. With this definition, waste land may be found everywhere,—in close proximity to our dwellings, in fields, in pastures, and wood lots. Sometimes a spot of waste land may be found where the water runs from the sink, or where the wash water is thrown out. Sometimes such waste spots are caused by the sawdust, chips, and other debris of the wood pile being left to accumulate year after year. Sometimes where the broken and worn out farm implements, and the broken and useless household furniture, articles too numerous to mention, are thrown in one promiscuous heap, or scattered helter-skelter in every direction; and sometimes where the wash of the barnyard or hog yard is too powerful for anything to grow but burdocks and nettle.

In regard to the unhealthiness and unsightliness of such surroundings, and to the waste of manure caused thereby, each one may form his own opinion. To say the least, such spots of ground are wasted. We hoe too much, mow too much, pasture too much, and thus encroach upon the growth of our forests without obtaining an equivalent benefit.

I have not found the first man who will contradict these statements; and yet, most pursue the same old beaten track which their forefathers trod. The common practice is to break up grass ground, plant it two years, putting on about one half the proper quantity of manure, and seed it down the third year with grass and grain without any manure. The soil is thus left in not much better condition than when first broken up. In a few years land treated in this way will yield no more than one half a ton of hay to an acre. The average crop throughout New England probably is not more than that. If this mode of farming is good under any circumstances, I think it is not so where the land is good for grass, and is near a market. In such cases I think that grass is the most profitable crop, and that no one should be satisfied with a less yield than one ton per acre. On some fields, especially moist land, top dressing is doubtless better than plowing. Where we do plow we should manure highly, and lay the land down in good heart. If mowing fields were not fed in the fall they would produce good crops much longer.

Some fields might easily be made to produce more abundant crops by irrigation. I know of a field of five acres, which, without any expense except turning a small stream of water on one part of it, and surface draining another part, now produces more hay and of better quality than it did ten years ago. It seems that water in some way enriches the soil. I once knew a spring of pure water to be turned on to a side hill only one summer, with some benefit to the grass. The next spring the water being turned in another direction, the field was plowed and sowed with oats without being manured. During the season there was a striking difference between the oats where the water run the previous year and the rest of the field. I know of a field watered by a spring that is dry by mid summer, which, without being manured, has produced large and undiminished crops of hay for more than twenty years; and I know of no reason why it may not continne to do so for an indefinite period. A farmer in Manchester, N. H., informed me that he had a piece of sandy ground which would not produce white beans; but after watering it a few years, by means of a brook, it would produce anything.

The management of our pastures is as bad as that of our fields, and in some cases more so. They are fed year after year without being manured. Where they can be, they are sometimes plowed and crops taken off, but seldom is any manure put on. Sometimes pine and other trees are permitted to grow till they cover one-half of the ground, and then are cut down. Now unless you mean to make a wood lot of your pasture, why not destroy the bushes before they are large? Sumac, sweet fern, hardhack and whortleberry bushes sometimes nearly ruin a pasture. I have seen one-half of the surface of some pastures covered with what is variously called juniper, ground hemlock, &c. Its branches lay close to the ground and completely kill the grass so far as they extend. When small they can easily be pulled up. When large they may be destroyed by burning or by cutting off the branches in June. Where pastures can easily be plowed, I think we had better make mowing fields of them. If by this means our pastures should prove to be insufficient, the deficiency can be supplied by soiling. In this way we can keep more stock and keep it better. Where pastures cannot be plowed, all kinds of bushes ought to be kept from growing, and I think it would pay occasionally to top dress. Some different system in the management of our pastures is certainly imperiously demanded; for they are every year growing poorer and poorer. Even now pasture land is half wasted.

Derry, N. H., 1867. E. B.

WASH FOR BARNS.

There is no cheap substitute for oil paint. All the different kinds of white-washing are incapable of shutting out moisture. The sides of buildings especially exposed to rains, will lose a portion of any kind of wash by the combined action of frost and moisture. Oil paint obviates this difficulty. There are many different kinds of wash recommended; but with a single exception we have never found anything better than a mixture of good lime and water. This exception we have made a thorough trial with. A rough barn, which received a coating four years ago, now retains most of it, although a considerable portion is scaled off on the most exposed side. This wash is made substantially as follows: One peck of fine beach sand, three pecks of water lime, and four quarts of salt. These proportions might vary without detriment—there should be as much sand as can conveniently be applied with a brush. A farm laborer applied this mixture early last summer to two rough barns, one about thirty by fifty-five feet, the other twenty by thirty, in three and a half days, consuming two bushels of water lime, which was nearly the whole cost of material. This coating, now nearly one year's standing, appears to be as good as the day it was put on. It will be perceived that the expense is only about one-tenth the cost of a coat of paint.

Fireproof Wash for Shingles.—A wash composed of lime, salt, and fine sand or wood ashes, put on in the ordinary way of white-washing, renders the roof fifty per cent. more secure against taking fire from falling cinders, in case of fire in the vicinity. It pays the expense a hundred fold in its preserving influence against the effects of the weather. The older and more weather-beaten the shingles, the more benefit derived. Such shingles generally become more or less warped, rough, and cracked: the application of the wash, by wetting the upper surface, restores them at once to their original or first form, thereby closing up the space between the shingles; and the lime and sand, by filling up the cracks and pores in the shingle itself, prevent its warping.

To Keep Tires on Wheels.—Hear a practical man on this subject: "I ironed a wagon some years ago for my own use; before putting on the tires I filled the felloes with linseed oil; and the tires have worn out and were never loose. My method is as follows: I use a long cast-iron heater, made for the purpose; the oil is brought to a boiling heat, the wheel is placed on a stick, so as to hang in the oil, each felloe an hour. The timber should be dry, as green timber will not take the oil. Care should be taken that the oil is not made hotter than a boiling heat, or the timber will be burned. Timber filled with oil is not susceptible to injury by water, and is rendered much more durable by this process."

Value of Grass Land.—The time has not yet come when farmers appreciate, as they should, the value of grass. Every year dairy products are becoming dearer, because the grass region is limited, and only a few years, will be required to give any farm natural for grass a value which now would be thought excessive. If I wished to buy a farm for my posterity, which would continually increase in value. I certainly should choose it in the region of grass. For I do know that during the course of one's life, a grass farm will bring more money and comfort and with less work than any other farm, whether on the Sciota, the Wabash, or the Mississippi bottoms nor can a farm of equal value be selected and made anywhere within the belt formed by the tropics, the whole world around.—*N. C. M., in N. Y. Tribune.*

—Hon. Sidney Clark, member of Congress from Kansas, has addressed a letter of inquiry to the leading men of that State for facts bearing on the Texas cattle disease, with reference to some action on the subject by Congress.

AN IMPORTED JERSEY COW.

The Jersey cattle are receiving considerable attention at this time. Mr. Jennings says, "the race is supposed to have been originally derived from Normandy, in the northern part of France. The cows have been long celebrated for the production of very rich milk and cream, but till within the last twenty-five or thirty years they were comparatively coarse, ugly, and ill-shaped. Improvements have been very marked, but the form of the animal is still far from satisfying the eye.

The head of the pure Jersey is fine and tapering, the cheek small, the throat clean, the muzzle fine and encircled with a light stripe, the nostril high and open; the horns smooth, crumpled, but not very thick at the base, tapering and tipped with black; ears small and thin, deep orange color inside; eyes full and placid; neck straight and fine; chest broad and deep; barrel hoofed, broad and deep, well ribbed up; back straight from the withers to the hip, and from the top of the hip to the setting of the tail; tail fine, at right angles with the back, and hanging down to the hocks; skin thin, light color, and mellow, covered with fine soft hair; fore legs short, straight and fine below the knee, arm swelling and full above; hind quarters long and well filled; hind legs short and straight below the hocks, with bones rather fine, squarely placed, and not too close together; hoofs small; udder full in size, in line with the belly, extending well up behind; teats of medium size, squarely placed and wide apart, and milk-veins very prominent. The color is generally cream, dun, or yellow, with more or less of white, and the fine head and neck give the cows and heifers a fawn-like appearance, and make them objects of attraction in the park; but the hind quarters are often too narrow to work well, particularly to those who judge animals by the amount of fat which they carry."

Mr. Flint says, "the opinions of practical men differ widely as to the comparative merits of this race, and its adaptation to our climate and to the wants of our farmers. The most common decision, prevailing among many even of the best judges of stock, appears to be, that, however desirable the cows may be on the lawn or in a gentleman's park, they are wholly unsuited to the general wants of the practical farmer."

The cow from which the above engraving was taken, was imported by Mr. J. French, of Roxbury, Mass., direct from the Jersey Islands.

WOOL AT THE PARIS EXPOSITION.

The good book informs us that it is not wise to compare ourselves among ourselves, or to think more highly of ourselves than we ought. Perhaps as a people we compare ourselves with others too seldom, and are a little given to self-glorification. A few weeks since we published a long account of the trial of mowers, which resulted very much to the credit of American mechanics, and from our former success in the exhibition of sheep, we hoped that at least a creditable display of American wool would be made in our Agricultural department of the great Paris show. A letter from H. D. L. Sweet, Esq., Secretary of the New York State Sheep Breeders' and Wool Growers' Association, addressed to Hon. H. S. Randall, and published in the *Rural New Yorker*, throws cold water on this expectation. Just see what he says:—

Of our own land, perhaps the least said the better. In all departments we are deficient, except machinery, and the Agricultural, particularly, is a libel and a disgrace. I believe somebody does show three or four fleeces in a glass case, locked up in the grease,—stained and dirty at that. One fleece looks very fine, but dead like, and it may be some *crack* fleece five or six years old. I cannot find any other samples of any kind or quality.

And as though this was not disgrace enough for one day, or for one World's Fair, Mr. Sweet says, "the worst thing in the Exposition for our wool growers, is a Yankee invention to make Mestiza wool as good as our own. It takes out the burrs completely, and so well was it thought of by the foreign jury, that they gave it a medal from a sample of its work, without its having been run."

From his remarks on the collections of wool from other nations we copy the following:—

In the French department I have not been able to see but very little. Of the samples I have examined—perhaps 25 very fine ones—the wool, without exception, I call short staple, very fine, usually dry, without luster. Some marked "*lane* wool" was, perhaps, from four to six inches, I should think coarser than Mr. Wing's or Gazley's, without luster and dirty, but strong and felt harsh.

In the English Department I have found nothing, except from the Colonies, and they do exceedingly well. Australia sends, I think, 100 samples in all, and all of them good—some beautiful. The length, the fineness and luster is equal to any I have yet seen here, and the strength good. Canada does well in both combing and fine, except some of the fine wools lacked strength, but their combing wool has excellent luster. The colonies of Natal and New Zealand both send samples that are excellent,—but in no great quantity.

Spain exhibits a large collection of fine wool, short and dirty, some very much discolored, has an old look. Perhaps it is some that has been deposited in their Department of Agriculture for years, as there is but little shown by individuals.

Portugal has but few fleeces on exhibition, but of both fine and coarse, white and black as well. The fine is from an individual flock of ten fleeces, of beautiful wool, good length, fine quality, bright luster, silky and strong.

In the Russian Department are about 100 samples handsomely displayed; fine, short staple, very oily, some dirty, but apparently compact fleeces,—some of the washed fleeces white and beautiful. The flock of Amidee Philbert of Atonania, Crimea, took a gold medal. The same flock took the prize in London in 1862. His complete flock number 70,000 in all. Russia also grows some rare wool, and what must be Cashmere goat's hair; long wool invariably coarse.

Austria shows her wool in little, straight bottles, with brass caps, from an inch to two inches broad, and from two inches to eight long, and mostly ungetatable. The wool varies from half an inch to three inches in length, all in its natural state, and in all about 1,000 samples. The Duke of Kruman exhibits a few fleeces in their natural state,—very fine, very oily, very short, and very dirty. Some of these fleeces, about 60 in all, have been washed, some one-half of each fleece washed, and show very white wool and a strong staple.

Prussia has her wool in flat glass cases for samples, about 10x16 and two inches deep,—176 of these with from 20 to 32 samples in each. The longest I could find of fine was not three inches, and of coarse wool not over six inches. There were 62 full fleeces shown.

Wurtemburg shows in Prussia fifty washed fleeces, locked up, that took a gold medal. They appeared to be washed after shearing. They were not uniform in length or quality. Several pictures of large flocks and individual animals grace the walls of the room,—but they seem to me to be one-third neck and head, and not squarely built. J. E. Hoffschlaeger of Weisin, shows a picture of a Negretti ram that looked like a Vermonter.

Egypt makes quite a display of black, white and tan-color,—none of it that I could feel of but what was coarser than spaniel dog's hair.

The Ottoman Empire has a few samples of wool that appear to be about one-fifth hair, and 20 of the Angora goat, labelled "DeLaine." I could not get at them.

From South America the show in some departments is good; in others, poor. Chili sends seven fleeces that ought to have remained at home, and followed our example. Peru sends a single fleece, apparently a good one.

The Argentine Confederation sends 30 fleeces and 100 samples that for length are fair, and otherwise, — quality, luster, and strength, are first-rate. She also shows separately her long wools, that are good, and a few specimens of the wool or hair of the lama.

Arizona seeds 30 fleeces and 100 samples of perfectly *splendid* wool. Some is exceedingly fine, but strong, very long, and of beautiful luster. Samples that had been scoured were white as *un*driven snow.

For the New England Farmer.

BURNING,

AS A MEANS OF SUBDUING THE ROUGH PLACES.

Fire has long been used as a help in clearing land. It acts so quickly, saves so much time and labor, that any other agent or process is considered slow and too expensive. But some begin to doubt the policy of using it at all. A practice which may be tolerated by a backwoodsman in a fertile country, may not be advisable in other circumstances. All the advantages are temporary, and more than counterbalanced by losses; for fire is a great destroyer. It does too much; for, while it quickly removes from sight, logs, stumps, bushes, and other impediments to smooth fields and thorough culture, a vast quantity of vegetable matter at the same time is given to the four winds. The slow accumulation of vegetable growth for years is speedily swept away. In exchange we have a few bushels of ashes, which it is true, are of easy application, and powerful in effect; but which would have rendered as much if not more benefit as fertilizers along with the organic matter from which they have been produced.

Now the great want of our Eastern soils is just this vegetable material that fire destroys. Instead of wasting it by harsh means, it should be the aim of every cultivator to preserve every atom which nature supplies, and also to increase it by every means at his command. Stubborn facts are continually arising to convince the most casual observer of this, and to show that the ultimate effects of burning are decidedly injurious, and that the practice ought to be abandoned altogether. In the Eastern, and in many parts of the Western States, the rapidly increasing scarcity of timber and fuel has given a market value to all kinds of wood of any size, so that our noble forest trees which are in reality a great gift to man, will soon be saved from needless and ruthless destruction by fire. With our economical stoves, the smaller limbs and unsaleble parts can be used to advantage upon the farm. Wherever land is so valuable that it pays to pull stumps and roots, rather than let them decay in the ground, they ought to have some value as fuel. Yet still there is more or less refuse, and what shall be done with that, if fire is to be excluded from clearing the land? Let it remain upon the land and decay. Likewise, for the same reasons, bushes, brakes, &c., mowed in pastures, are allowed to remain. They do not materially interfere with cattle in feeding, while they form a sort of light mulch which helps shade the land from the sun, protects it from wind, keeps it moist and warmer in cold weather,— conditions which favor the growth of grass. Plaster and other fertilizers can be sown on the fallen bushes, and thus the original stock of vegetable matter may be retained and increased. Again, where a quantity of trash in the form of twigs, trimmings of trees and coarse vegetation accumulates in the orchard or about the house, unfit for stove or hogpen, it should be moved to some convenient place and piled up. By mixing a little lime, plaster, salt or ashes and giving an occasional overhauling, the whole will soon be reduced to fineness, especially if made in a wet place.

Nor in reclaiming meadows and bogs, even where the vegetable matter is in excess, is it expedient to burn any of the parings, either to get rid of them or for the small quantity of ashes they will yield. The toughest sods are needed for filling holes and low places and making roads and bridges, and as the adjacent upland is almost always deficient in vegetable matter, the more tender parings and surplus muck is needed to enrich it. It can be carted directly to it, or perhaps what is better, first worked up in hogpen or barnyard. The work of reducing them to fineness can be hastened by chopping. When slightly stiffened by frost a strong man with a large axe can cut up several cords in a day, and what was apparently almost indecomposible without the assistance of fire is thus speedily rendered fit for use.

In these ways it is possible to increase that black, rich mould so much prized in new land; while the surest and quickest way of exhausting any soil is to burn it often. Burn frequently and crop continually, and even our most fertile fields can be converted into barren wastes. And what in nature has a more dreary and desolate aspect than these parched and arid fields, where only the scantiest vegetation barely exists. No man has a right to burn, and complain of the poverty of his soil; nor can any one afford to follow such a wasteful and exhausting operation, even if he is willing to buy back the lost material in form of special fertilizers at three to five cents per pound, and strawy stable manures at six to ten dollars per cord. Even if any one finds a present gain from burning, it will ultimately cost him or his successors years of patient toil to restore the equivalent thus destroyed. Most assuredly, then, fires are to be dreaded in the soil, as well as in our forests or among our buildings.

July, 1867. N. S. T.

—In Florida spring planting begins February first, for corn, melons, beans, squashes, and such things as will not bear frost; while peas, beets, turnips, &c., do better to be sown in September.

EXTRACTS AND REPLIES.

SUCCESSFUL BEE-KEEPING.

At a late visit to the apiary of Mr. John J. Gould, of Wenham, Mass., I saw and heard so much that was interesting to me, that I think a brief notice will interest the readers of the FARMER. Though engaged in the business of manufacturing, Mr. Gould finds time to manage an apiary of some 85 swarms, and having kept bees for some 35 years, his practices and suggestions may be safely received as practical. He uses the Langstroth hive, but with an improvement of his own, which he calls the "double hive," on which he can put fourteen boxes of a size to contain three and a quarter pounds each of honey. He has also developed and made more practical than has ever been done before, an idea suggested by Mr. Langstroth. He has a sort of drawer, about three inches deep, filled with two rows of corn cobs—this drawer has only light slats for a bottom, just sufficient to keep the cobs in place. The honey board is removed and this drawer put in its place. The bees will attach themselves to these cobs, which serve the double purpose of keeping them warm and carrying off the moisture. With this simple arrangement the hives remain upon the stand all winter, with safety, without any other protection.

From forty-five of his hives, Mr. Gould has already taken this season one ton of honey! But last year, although he expended some $200 upon his bees, they laid up no surplus honey. This year he expects to realize at least one thousand dollars. We had the pleasure of seeing about two hundred of these boxes in a finishing room, where two interesting young ladies were labelling them for market. Cannot the FARMER send a photographer to Wenham and give us a *sweet* picture,—one that will induce others to engage in bee-keeping?

Mr. Gould has the Italian Queens and has been very successful in rearing and transferring them.

W.

SWELLING AFTER SCRATCHES.

Can any one tell me through the FARMER what will cure a swelling on a horse caused by scratches. I have a valuable horse that has one of these swellings. He had the scratches some eight or ten weeks ago, when his leg was as large as a common stove pipe, but the swelling is now considerably reduced. Is there any cure?

JONES KINGSLAND.

Ferrisburgh, Vt., July 27, 1867.

REMARKS.—In the treatment of diseases it is very important to know the cause and nature of the disease, and we think the following somewhat lengthy remarks by Mr. Youatt on the subject of Grease, or Scratches, will interest not only our correspondent, but all who have the management of horses, especially those troubled with this filthy disorder, which we believe is far less common in this country than in England, where Mr. Youatt wrote.

In explaining the cause of Scratches, or Grease as it is called in England, he says, "there is a peculiarity about the skin of the heel of the horse. In its healthy state there is a secretion of greasy matter from it, in order to prevent excoriation and chapping, and the skin is soft and pliable. Too often, however, from bad management, the secretion of this greasy matter is stopped or altered, and the skin of the heel becomes red, and dry, and scurfy. The joint still continuing to be extended and flexed, cracks of the skin begin to appear, and these, if neglected, rapidly extend, and the heel becomes a mass of soreness and ulceration.

The distance of the heel from the centre of circulation, and the position of the hind limbs, render the return of blood slow and difficult. There is also more variation of temperature here than in any other part of the frame. As the horse stands in the closed stable, the heat of this part is too often increased by its being imbedded in straw. When the stable door is open the heels are nearest to it, and receive first, and most powerfully, the cold current of air. When he is taken from his stable to work, the heels are frequently covered with mire and wet, and they are oftenest and most intensely chilled by the long and slow process of evaporation which is taking place from them. Everything that has a tendency to excite inflammation in the skin of the heel is a cause of grease. No one, then, can wonder at the frequency with which the heels, especially the hind ones, are attacked by inflammation, and the difficulty there is in subduing it."

Nor need we wonder that after the chaps or cracks have healed, that the legs should continue swelled. The horse may be benefited by gentle purgatives, or a few weeks at pasture. The local applications should be directed to the abatement of inflammation. Mr. Youatt recommends highly a poultice of carrots boiled soft and mashed, "diligently used night and day," also a flannel bandage evenly applied over the whole of the swelled part.

WHAT SHALL I DO WITH THE BIRDS?

This is a question on which I have bestowed much thought. They took my early peas, and then my cherries and early fruits to such an extent that I began to fear that I stood a very small chance for a tithing of the crop. They were so very cool about the matter, too, that it seemed to me they supposed the title was vested in them, and I had no rights to either vegetable or fruits, which birds were bound to respect. Be this as it may, one thing is sure, they were bound to have the first chance, for however early I might appear upon the ground I was sure to find they had the start of me. I must confess to having my patience severely tried, and my faith shaken in the theory of their destruction of insects being a compensation *to me* for the loss I *knew* I was sustaining. These losses were incontrovertible facts; their murderous work on insects and other foes to vegetation, an open question, so far at least as some of them are concerned—the robin, cat-bird, oriole and wren, for instance. I own to making inquiry of my son one evening respecting powder, and shot and gun, with malice aforethought towards them in my heart; but the night's sleep so far modified my purpose that I gave it up for the present. I have ever defended the ungrateful rogues, and begged the boys to spare them, contending that they paid in song for all the fruit they took, on the principle that the *honking* of a neighbor's wild gander paid for his keeping! If a person happens to be located where not much fruit is cultivated, and tries to raise some himself he will find he is a serious sufferer, and will be likely to suspect that the birds located their nests just around him

for the purpose of having their young at hand to initiate into their most questionable practices. I am not sure if another season's experience should correspond with the past, but I shall have recourse to what is said to be the first law of our being—*self-defence*. K. O.

Broad Brook, Conn., July 20, 1867.

WOOD FOR PIGS TROUGHS.

What kind of wood is best for a hog's trough, and for the flooring of their pens? My hogs, in attempting to make improvements in their pen, not having any great mechanical skill, have nearly demolished it. It must be reconstructed soon. I should be glad to receive an answer to the above questions before I commence the important operation.

Suppose an animal's left eye should be diseased, I should like to know whether Mr. Breed would apply the butter to the left, or right ear. I don't know what he means by "opposite." E. B.

Derry, N. H., 1867.

REMARKS.—A feeding trough for hogs properly made of chestnut or white oak plank, and set up from the ground so that the air will pass around it, will last many years; how many we do not know, for we have not had one decay yet under the above conditions. Our pig troughs are always under cover, and as the swine are fed liberally, and *always come to the ground* when they wish to, the trough that was made ten years ago, is as smooth now as the day it was made. It was made of oak.

The treatment which swine give to their troughs depends in a great measure upon the circumstances which surround them. If they can always retire to a dry bed when they wish to, are fed plentifully, and can come to the ground as they please, they will remain quiet and grow rapidly. As long as grass and other juicy plants continue, they should have them every day, and two or three times a day they would be eager for them.

RAISING TURNIPS.

At this time, (July 20), wise farmers are thinking about the turnips for next winter. I have tried many ways to raise them, and find almost unvaried success in the plan of my last adoption. When my haying is a little out of the way, I select a plot of ground as much as I think I can manure well, and turn it bottom up, usually using Nourse's Iron beam Swivel plow with the subsoil attachment. The soil is well turned, and the subsoil is well broken. With a good share harrow, the ground is thoroughly pulverized and levelled. Twenty loads of 40 bushels each of fine manure are put to the acre. This is thoroughly mixed with the soil by harrowing or cultivating. I then mix one pound of purple-top strap-leaf turnip seed with sufficient herds grass and red top for the acre, sow it and brush it in, with a light brush. The roller is then passed over it, and the turnips are left to take care of themselves till they are in danger of being frozen. They are then pulled and put into the barn cellar and barn floor, tops and all. Boys are hired at two or three cents per bushel to top them and put them into the root cellar. I can find a use for them in large quantities during winter. My hogs eat them, my cows eat them, my sheep eat them, and my horses are fond of them. Sown the first of August, they are sweet and hard, and will keep so nearly all winter. For earlier use, they should be sown the first of July. By this arrangement no crop is lost. The first season we get two crops, one of grass and one of turnips; the second season a better crop of grass than has grown before; the third season, a crop as good as need be. I would recommend this method to all farmers. It is a cheap and sure way of raising turnips, which are very desirable in the winter. And it is a cheap way of making a worn out piece of land into good grass. This may appear too late to do much good this season. I have known good turnips raised from seed sown as late as the tenth of August, here in New Hampshire. My neighbors are following my example, which may be good evidence in my favor. Z. BREED.

Weare, N. H., 1867.

DEER AND HOGS TO KEEP OFF THE CURCULIO.

Your correspondent, Thomas Ellis, Esq., of Rochester, Mass., writes so feelingly on the subject of that sneaking curculio, that I cannot refrain from giving him my experience, which, like that of a great many others, may cost more than it will come to.

Some twenty years since, I was at the house of a friend at the season of the plum, and was invited to partake of some, which were very nice. I inquired how he succeeded in raising perfect plums, and he at once told me the secret. "See that tub of water? I throw the plums that fall into the water, and that prevents their going into the ground to again come forth to do their work of mischief." Years ago, I had an orchard of about thirty trees, mostly of the Rhode Island greening variety, which did well and bore abundantly, until the curculio came for his share, which proved to be the whole. I believe he did not leave me a sound apple. At this time I had an opportunity to get a pair of deer, which I improved, and after protecting every tree against their gnawing propensity, and building a picket fence six feet and a half high, I put them into the orchard, and by the second year I had no more trouble from the curculio.

If Mr. Ellis does not like the luxury of deer-keeping, a few hungry hogs will produce the same effect. ALFRED BAYLIES.

Taunton, Mass., July, 1867.

SELLING POULTRY.

Farmers are selling their poultry too cheap. The middle men, who are traversing the country and buying up lots of poultry, get the best end of the bargain. They grind the faces both of the producer and the consumer. At the present retail prices for beef and poultry, the latter is the cheaper of the two, and farmers should hesitate before they sell for about *one-half the price* which the consumer is obliged to pay. Besides, poultry is regarded as more of a luxury than either veal, pork, or beef, and farmers should therefore demand for it relatively a higher price than they usually obtain. A LOVER OF POULTRY.

Waltham, Mass., July 24, 1867.

REMARKS.—Both among the producers and consumers of poultry there are some very fastidious people. And if the farmer and his wife, and his sons and his daughters, or the consumer and his wife, and his sons and his daughters, happen to dislike the job of dressing a lot of poultry, we do not suppose that Mr. Lover-of-Poultry, backed by the editorial force of the NEW ENGLAND FARMER, can prevent them from employing somebody else to do it for them. Still the questions raised by our correspondent are pertinent and forcible. The "art and science" of marketing is not sufficiently studied by farmers, or by consumers either,

and if any of our readers can suggest any improvement in the present manner of marketing poultry, or produce of any or all kinds, we shall be glad to give them a hearing.

WHAT AILS MY GRAPE VINE?

I have a Concord vine seven or eight years old, that has borne well four years. In the spring of 1866 it started to grow as usual, but soon a portion of the leaves began to turn yellow, and the vine did not seem as thrifty as usual. It nearly recovered, however, before autumn, and I gathered twenty-five pounds of grapes from it, although, owing to the unfavorable weather, they did not ripen well.

I supposed the sickly appearance of the vine was occasioned by the preceding hard winter; but this summer it looks still worse. It was laid down last fall, and it came out looking well in the spring. But it did not start as usual, and when it did the leaves looked yellow and sickly, and continued to appear so.

My plan of pruning has been to cut back in the fall to two eyes, training two arms horizontally, and the new shoots perpendicularly. I have always kept it well watered with sink water or soap suds. The wood looks healthy. Will some one inform me what is the disease, and the remedy?

L. VARNEY.

Bloomfield, C. W., 7th month, 20th, 1867.

TRIALS OF SUPERPHOSPHATE.

A Worcester subscriber in the FARMER of July 13, says that he "wishes to use superphosphate of lime on *good ground*, where rye is to be sown," and inquires how much to use, and how to apply it. I never had any experience with it until this season. Last spring I bought one barrel of Bradley's patent and sowed upon grass on a low meadow, leaving some places (and marking them) where none was applied, so as to test it; but could not discover a particle of difference in the crop where it was applied and where it was not. I also bought two barrels of Bradley's XL, for corn. One barrel I used clear, putting a tablespoonful in each hill; the other barrel I mixed with hen manure, plaster and loam taken from under a stable-floor, making five barrels of the mixture. The most of both kinds I applied to corn planted in an old pasture which had not been plowed before for forty years. The corn is best where the mixture was applied. I staked off some rows on good land, and used some of the phosphate on a part, clear; some of the mixture on another part, and put ashes in the hill on another part; leaving 4 rows between without anything, and intend to harvest each plot separately and note the result. But now, where I put the mixture, the corn is much the largest, and where the pure superphosphate was used it is smaller than where nothing was put in the hill. From my experience, thus far, I would advise my Worcester friend to use very little superphosphate, and to *reduce* it with as much hen manure, plaster and scrapings from under stables as he can get.

Westminster, Vt., July 26, 1867. C.

BEE-BREAD.

Twice within ten years a large portion of our bees have died for the lack of sufficient "bee bread." We are *sure* they died, and *think* the want of that part of their usual supplies was the cause. Syrup made from refined sugar is a substitute for honey. Will you, Mr. Editor, or any of your correspondents please to tell us of a substitute for pollen; and tell us, also, if bees kept in buckwheat districts ever want for "bee bread" in their hives in the spring. Bee keeping is a very uncertain source of profit while we depend entirely upon the usual sources of supply for honey. It is not often that a good swarm will fail to secure enough for itself in the worst seasons; yet there are times when good swarms fail to do that. They must be fed; the little they really need *must* be given to them, or they die. There is no trouble in supplying honey, and it can be done at any season of the year, but economy will choose a time to feed. What can we do for a supply of "bee-bread?" Tell us that, and you have made bee keeping comparatively safe; for we have no fear for the moth, no trouble with cold in winter, no foul brood or other diseases among our bees; and we do not fail of a bountiful supply of honey from the usual sources oftener than we fail with our stock or crops of any kind. How to get through the hard seasons, and preserve our stock of bees until a good season will yield a profit, is the great question with bee keepers. F.

New Hampshire, July, 1867.

SHOULDER SPRAIN IN HORSE.

Will some of the contributors to the FARMER tell me how to cure shoulder sprain in my horse? He will be a little lame six months, and then well six months, and then lame again. R.

July, 1867.

REMARKS.—Youatt and Spooner say that bleeding from the vein on the inside of the arm and mildly blistering the shoulder generally succeeds in effecting a cure.

CROPS IN NEW HAMPSHIRE.

Our hay crop is nearly secured, and is from twenty-five to fifty per cent. better than last year; depending much upon the amount of spring and fall feeding to which the fields have been subjected.

Potatoes are looking very well. Grain good, and early pieces ready to be cut. Corn is generally good, but late; some pieces have not been hoed at all, planting was so late and haying so early, which farmers were disposed to attend to, though at the neglect of other things. We hear no complaint for the lack of fruit. Small, wild fruit of all kinds are very plenty. F.

Mast Yard, N. H., July 26, 1867.

A CASE OF CONSCIENCE.

Old Farmer B——, of ——, sold a pair of oxen to a man in a neighboring town, and agreed to deliver them to the buyer. Having delivered the cattle according to agreement, he was jogging homeward, when he suddenly stopped his horse, and, thinking aloud, remarked, "There! there! I forgot to tell him, after all! Them cattle are confounded rogues. I ought to go back and tell him; I guess I will; no, I won't; for he'll find it out—he will." EAVESDROPPER.

——, Mass., July 25, 1867.

NOTES FROM MAINE.

Haying is the all absorbing work with the farmers just now. The mowing machines—and many kinds too—are put to the test of *work*, and admirably are they doing the required task. Recent improvements in their construction, and the increased skill in working them, enable them to be used advantageously upon many fields where it has hitherto been thought impracticable.

The drag rake, the horse rake, and the horse pitchfork are being pressed into service wherever available.

Haymen get $50 to $65 per month, or $2 to $2.50, and some $3 per day, fair weather.

The hay crop is from one to two-tenths better than last year, and is selling, direct from the fields, for $12 to $16 per ton.

The cultivated crops look well generally, though not quite up to time in maturity. It is better growing than haying weather, the last half of July.

The apple crop will be very light,—not up to last year; other fruits, perhaps, a little better.

The season, thus far, has been a singular one. Cold wet May; June a fine month for all work; July hot days and cool nights; and so during all the season the nights have been cold and cool, yet vegetation is luxuriant. O. W. TRUE.

Farmington, Me., July 30, 1867.

WINTER WHEAT.

We hear great stories about wheat in the South, West and at other points of our country. It seems to be a general time of rejoicing, for it is pleasant to know that we have an abundance of the prime staff of life.

Now it is pertinent to ask the question, how much wheat have the farmers of New England raised this season? Could they answer, from two to four acres each, they would have no occasion for a barrel of flour from the West, for I maintain that four bushels wheat weighing 240 pounds, allowing 44 pounds for bran, is a fair estimate for a barrel of 196 pounds flour. But a portion of this bran would be consumed by most families who consider wheat meal as far more healthy than fine flour, at least for a change.

Farmers who have been paying four to four and a half dollars a bushel to Western farmers the past year, you can afford to raise wheat for one dollar and fifty cents With the exception of seed, a wheat crop can be raised at the same cost and labor that is expended on other crops, but when harvested, it is far more valuable. Is it not an object to try? Several (of the few) that have attempted it, have come out with their statements of 20 to 40 bushels to the acre. Why, then, halt any longer? Sow a peck, half bushel, or a bushel, in one corner of your old mowing land as a beginning. The rowen you turn in is a good coating of manure,—sod wheat is always best. Let the grain lie in brine ten hours, rake it in ashes or slacked lime. Sow at the rate of two bushels per acre, and cultivate two or three inches deep, from last week in August to tenth of September, depending somewhat on the strength and earliness of your soil. You are then safe from winter kill. Get a good growth this fall before the ground freezes, and your crop is safe as winter rye, and you will get double the quantity to the acre that you generally raise of rye on your light, poor soils.

Our grain dealers talk of a short crop in Europe. Should it prove so, prices will not range low with us. HENRY POOR.

Brooklyn, L. I., Aug. 5, 1867.

WHEAT RAIFING BY A LADY IN MASSACHUSETTS.

I do not know how to write for a newspaper, but I want my farmer sisters, if not all farmers, to have the benefit of my experience in winter wheat raising. My husband often talked about it, but never had sufficient hope or courage to make the attempt. My crop has been very large this year, to my delight, and I could not help sending the "widow's mite" for the benefit of any who may be in doubt. I shall persevere, having had the sad experience of paying twenty dollars a barrel for flour the past year.

The NEW ENGLAND FARMER is a treasure to me, having learned from its correspondents the valuable lesson of wheat raising, as well as many others, to help me in providing for my family. Many a mother has to provide for her family from farm products, and I wish they could look upon my wheat field, take courage, go and do likewise. Should I live till spring, I shall try spring wheat. I feel great delicacy in sending this letter, but hope it may do good to others with small means.

———, *Mass., Aug.* 6, 1867. MRS. WM. O.

REMARKS.—The above contribution was as gladly received as were the "two mites" of a "certain poor widow" of old. Compared with the "offerings" of those who "cast in of their abundance," this brief article may appear small; but who that has the experience of paying twenty dollars a barrel for flour will deny that this modest writer "hath cast in more than they all."

CURE FOR HOLDFAST IN CATTLE.

Having been successful in curing two rather bad cases, one on the lower and one on the upper jaw of different animals, I feel it my duty to my brother farmers to communicate my course of treatment. At night I applied good home-made soft soap to the swelling, rubbing it thoroughly into the hair and completely over the swollen part. The next morning the soap was carefully washed off and out of the hair with cold water. This followed up daily, soon removed the swellings in both cases after they had got to be of good size.

J. H. MARSHALL.

North Easton, Mass., Aug. 1, 1867.

REMARKS.—If this shall prove as effectual with others as with our correspondent, his brief statement must be of great value to stock raisers. It is commonly believed by farmers that these swellings, known as Holdfast, Stickfast, &c., are occasioned by the old teeth being retained when the new ones are starting, causing the new teeth to grow out of the side of the jaw, thus causing irritation, which results in inflammation and swelling. It may be well, therefore, in the first place, to see if there is anything wrong with the teeth.

CURE FOR LAMENESS IN A HORSE'S SHOULDER.

Several years since I bought a horse in a condition similar to that described by "R.," in the FARMER of Aug. 3. After standing still a few days my horse did not show any signs of lameness, but when driven a few miles quick, or when he became tired with travel, he would be quite lame.

I bathed the entire shoulder with equal parts of "Mustang Liniment" and alcohol, well mixed, and warmed or dried it in with a hot brick, being careful not to let the brick touch or burn the skin, rubbing at the same time. A few applications, once in two days, letting the horse have a loose stable, and keeping him as quiet as convenient, cured him after a lameness of eight or ten months. The application may not be of service in another case, but as it cured my horse I would make it known to "R." and he can try it or not as he pleases.

I should consider the less blood-letting and blistering the better, if the animal was in good health otherwise. A.

Montpelier, Vt., Aug. 5, 1867.

OATS TURNING TO RYE.

I have n't received any information through the FARMER concerning "scattering rye on oat land," but have been told, however, that the few oats that chance to live in the ground through the winter,

germinate in the form of rye. What do you say to that? G. S. BENNETT.

Royalton, Vt., July 29, 1867.

REMARKS.—We never knew of oats turning to rye, nor of corn turning to potatoes; but both and all "turn" up strangely sometimes, and we hardly know what they sprang from. May not the "scattering spears of rye growing on land which the year before was seeded down to oats," germinate from kernels of winter rye sown with the oats or the grass seed? Who can furnish the desired information?

WHEAT TURNING TO CHESS.

The party that complained of "chess" in his winter wheat should have passed through his field and plucked it by the roots. No one can mistake it, and there is no necessity of having it. "As ye sow, so shall ye reap." H. P.

Long Island, N. Y., July 27, 1867.

LIME AND SALT FOR CURING HAY.

NEW ENGLAND FARMER OFFICE,
Boston, August 1, 1867.

Hon. SIMON BROWN,—Dear Sir:—Mr. E. L. Metcalf, (E. L. & O. F. Metcalf) of Franklin, Mass., called upon us to-day, hoping to have seen you. He wishes to consult you as to the chemical action of salt and lime as a preservative of green hay or grass. As to the fact of the curing properties of the compound he has no doubts. This he thinks his experience the past and the present season has fully demonstrated. But he wishes to know *how* it operates, and whether it can in any way prove injurious to the stock which consumes hay cured as he is now curing his. His practice was stated substantially as follows:—

He commences with one or two machines, according to weather, help, &c., as soon as the dew is off, in the morning, and puts it all into the mow the same day if possible. If impracticable to get it all in the day it is cut, he puts it into cocks which are capped. This is carted the next day—the cocks never being opened. He cuts about 60 tons, and puts in from 4 to 8 loads per day, and applies a mixture of about four quarts of air-slacked lime and two quarts of salt per ton. The other day he commenced raking before the machine had finished cutting, and, much to the alarm of his foreman and other hands, put it directly into the barn. Yet with the application of the lime and salt mixture the hay thus hurried in does not heat, sweat, nor become musty.

Last winter he kept on hay thus cured, 4 cows, 6 oxen, 2 two-year-olds and a horse; all of which did well and were healthy. Indeed, he said the stock would pick out this hay from that cured in the ordinary style. He sold a ton this spring to an old farmer in his neighborhood, who, after having used most of it, asked him how he happened to sell rowen. On being told that it was not rowen, but ordinary first-crop hay, and that, too, which was cut rather late in the season, his neighbor remarked, well, it was so soft feeling and fresh looking, that he really thought it was rowen. After being told that the hay was cut and put into the mow as above described, the man remarked that he should certainly try the salt and lime himself, for he never had any hay in the spring which his cattle ate so greedily.

By way of experiment, Mr. Metcalf exposed a small stack of hay thus cured in the mow to the open air on the north side of his barn, and is satisfied that it resisted the effects of the weather far more effectually for the liming; and infers that such hay would bear transportation much better than hay cured as usual.

With this process and with modern implements, he says he can put his hay into the barn at an expense of $2 per ton.

At his request, I have submitted the question of the chemical action of the lime and salt on the large amount of moisture which grass is known to contain, to Dr. James R. Nichols, who has promised to consider the subject, and reply in the next number of his *Journal of Chemistry*.

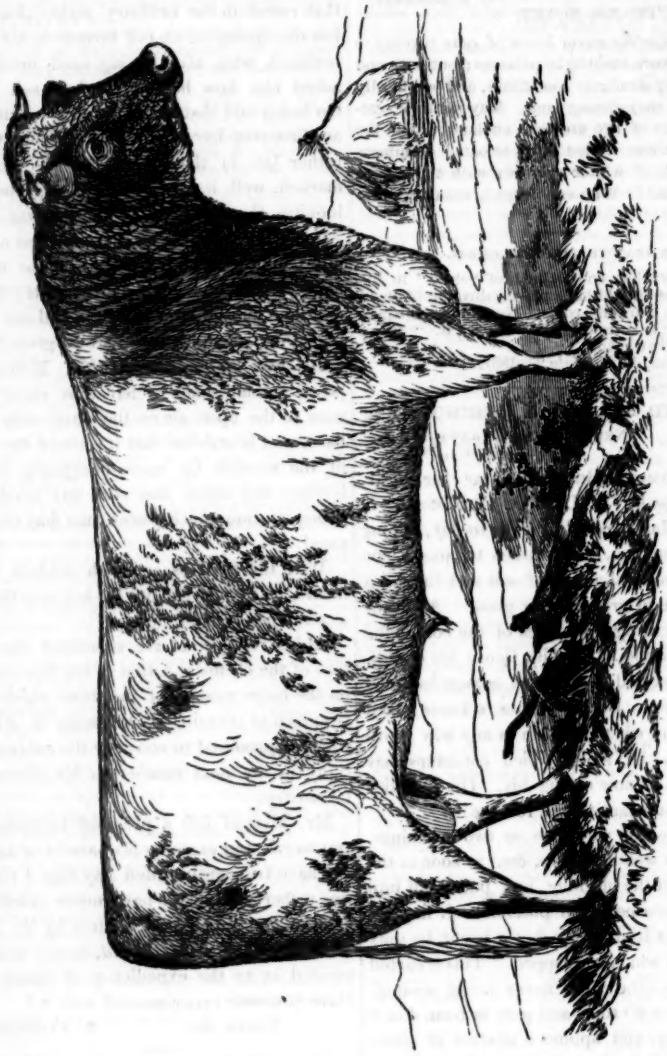
Mr. Metcalf left a pressing invitation for you to call and examine his barnful of hay.

I have frequently salted hay that I thought was rather green, but have never tried lime. I notice that in an article, written by Mr. X. A. Willard, of the Utica *Herald*, doubts were expressed as to the expediency of liming hay. Have you ever experimented with it?

Yours, &c., S. FLETCHER.

ON THE FARM, Concord, Aug. 9, 1867.

I think we had better publish the foregoing. I am so much interested in the statement that I have put down one scaffold of hay in the *lime and salt*, and if opportunity offers shall be most happy to compare results with the Messrs. Metcalf. We shall cut about eighty tons of fodder this year, and just now I am exceedingly busy; as this season, especially, we find it necessary to "make hay while the sun shines." Yours, truly, SIMON BROWN.



ROAN PRINCE, 6370 Vol. 7 A. H. B.

The animal above represented is the property of Joseph A. Harwood, Littleton, Mass., winner of the Sweepstake Prize offered by the Middlesex County Agricultural Society, at Concord, September, 1866, for the best bull of any breed; also, winner of the first prize as the best Short Horn Bull, by the same society. Roan Prince was got by Rising Star, 5129, out of Lady Sale 8th, by Second Prince of Orange, 2183,—Lady Sale 6th, by Red Knight, 890,—Lady Sale 3d, by Imp. Third Duke of Cambridge, 1034 (5941,)—Imp. Lady Sale 2d, by Earl of Chatham, 10,176, &c.

The above picture is a correct likeness of this magnificent animal, as taken from life. He is now two years old, and was purchased by his present owner of Hon. Daniel Needham, of Groton, to whom he was presented by the Provincial Societies of Agriculture of Canada.

For the New England Farmer.

SUCCESS IN FARMING.

Can young men succeed better in other callings than as farmers?

I see you print, (Feb. 16, 1867,) the following, which is the concluding sentence of my article on "Renting Farms:"—

The same amount of study, tact, talent, energy and enterprise that suffices to make a man moderately successful in a professional or a mercantile career, will place him in the front rank of the tillers of the soil.

You then remark that it "is going the rounds of the agricultural press," and that you "wonder at it, as you do not believe it is true." Also that you "think it would be full as correct to transpose the sentence, and say, "that the same amount of talent, tact, industry, energy, economy and enterprise that suffices to make a man a moderately successful farmer would place him in the front rank of the professional or mercantile classes."

It is scarcely necessary to say that I was much surprised to see this. I was trying to show that farming was the best and surest business for farmers' sons to follow. That "the professions are so crowded that it is often many years before an opening is found, and a paying business obtained." And that "these difficulties have kept many talented men in the back-ground for years, or finally driven them into other business." While it was not "much better in the mercantile business," as "every opening for or avenue of trade is crowded and overdone." And that both are so crowded that "competition and combination do their utmost to prevent the success of the beginner." With other facts and arguments offered to prove that farming was the surest and easiest to get started and succeed in; and winding up with the sentence in question.

Now, am I mistaken? Will young men find it easier, and be surer to obtain a comfortable competency, by entering into trade, or the professions? Remember that it is not the abstract question that I have in view, but the practical; that I try to consider these matters as I find them. No doubt but the successful merchant or lawyer gets better paid in money and honor than many successful farmers. Political economists say the reason for this, is, that it takes a costly preparation in time and money to secure such success. Many farmers will say that the so-called intellectual classes so rule society as to secure better pay for their labor. But this is not the point. If the successful lawyer can get more money for a fair day's work than a farmer gets for from ten to one hundred times as much labor, as is sometimes the case, it does not prove that it is best for young men to become lawyers; for practically such lawyers are the exception; they are few and far between. There are so many lawyers, and competition is so close, sharp and persistent, that only those who have great talent, tact and ability that are especially adapted to the profession, aided by intense and persistent study, ever attain to the "front rank" in their profession. And then such "leaders of the bar" get about all the best business; while the rest, as a whole, have rather short pickings.

Take this county for instance. Out of some twenty-five or thirty lawyers, there are only two or three that are really successful; as many more moderately successful—worth as much as average farmers; while the rest are not as well off, nor do they make as much money as ordinary farmers. Doctors are not doing as well as lawyers. Merchants about the same; that is, a few succeed—many fail. But on the other hand, farmers are generally in good circumstances, and making money. Farms may average one hundred acres each, and, including stock and tools, may be worth nearly or quite $100 an acre, while many have several hundred acres, besides several thousand dollars at interest; and this, too, in a county that has been principally settled and cleared up during the last forty or fifty years, by men that had but very little means to start with; so that nearly all the property now owned by the farmers has been made by the present generation; while the failure of a farmer of ordinary industry and economy is scarcely ever heard of. So that, in fact, farmers are nearly all moderately successful, while this is the case with only a small share of the lawyers, doctors or merchants.

I know a farmer not yet forty years old who, with a capital of only $500 to $600 to begin with, has made between $30,000 and $40,000 by farming; while there is not a lawyer or merchant, of the same age, in the county that has got together as much money. This farmer has a moderate academical education; but no special study or preparation for his business, more than other sons of common farmers, while many of the other classes have been well educated, and by study and practical training, thoroughly prepared for their business; and some of them are men of superior ability and intelligence. So there can be but one reason why they don't succeed as well in proportion as the farmers, and that is they don't have the same chance,—they don't find the same opening for them to make money according to their tact, talent and ability. The farmer found plenty of business from the beginning—the others could not. There were enough older, experienced and well established lawyers, doctors and merchants, to do all the business, who had it in their own hands; and being men of much talent,—some of them of decided ability,—and having the confidence of the people, they could not be crowded out nor deprived of patronage. Hence new aspirants, however talented and thoroughly prepared, often have great difficulty in getting a good start in business.

Again: we have many hundreds of moderately successful farmers in this county, like a

neighbor who has made some $10,000 or $12,000 during the last twenty years. He has but little training, and not a large amount of general intelligence, but is industrious and frugal; qualities which have enabled him to become "a moderately successful farmer." Yet it would be worse than useless to tell any one that is acquainted with his mental ability, that it is possible for him to attain to the front rank of the professional or mercantile classes.

If farmers are thus moderately successful without any special education, study or training for their business, how will it be when they have the full benefit of these advantages? Law and medical schools, and commercial colleges, are of great advantage to the classes they are intended for. May not agricultural schools be a great help to young farmers, also? I believe they will be, and that thousands that otherwise would be rather ordinary farmers, might, with their help, attain to the front rank of their calling.

True, men have succeeded in all pursuits, without any special education or training for their business. But while this has only been the case in regard to few and rare exceptions in other callings, it is the general, if not universal rule with farmers—that is, as far as success is attained. In fact, I believe we have no farmers that have been thoroughly educated and trained in agricultural schools for their business; that we have yet to learn, at least practically, the full advantages of such preparation.

But do the editors of the FARMER intend to encourage farmers' sons to leave the farm, by holding out such inducements as, that it is easier to reach "the front rank in the professional or mercantile classes," than to become "a moderately successful farmer?" Not only are all kinds of business avocations crowded, but we hear of thousands in the cities that can't find anything to do. But a few months since the *Tribune* said there were 40,000 idle men vainly seeking employment in New York city. And on the tenth of April the *Weekly Tribune* said:

"And now let us once more exhort the surplus population of this and every other great American city to disperse. There are at least one million of them this day hanging on where they are not wanted, and are not likely to be. 'Can't you give us something to do?' is their incessant whine, when there is work enough and good pay for all, if they would only go where it is needed. They cannot find work on a few square miles of pavements, because there are too many people here and too few on the farms and in the rural factories and workshops. The world does not need so many clerks, salesmen, bookkeepers, music-teachers, governesses, &c., &c., as seek employment in those capacities; so thousands must be starved back into productive labor; and the sooner this is done the better for us all."

Now this is a very serious matter in the cities; and yet it is the case when help is very scarce and high in the country. Here wages are about double the price paid before the war, and men very scarce at that, so that one of the most serious difficulties farmers have to meet is the scarcity and high price of help. Now does the FARMER wish to add to this difficulty by encouraging a still greater number of young men—farmers' sons—to leave the farm? And will not this be likely to be the case with those that believe there is a better chance to succeed, in other occupations than in farming? But still as the general tenor of the editorials of the FARMER has been in favor of "sticking to the farm," it may be there is some mistake—some misapprehension in this matter that may be explained. F.

Western New York. 1867.

REMARKS.—We admit the force of our correspondent's strictures, from his standpoint. We contemplated the subject under a different aspect—an aspect in which we think the occupation of the farmer is too often contemplated—that of its inferiority as compared with the other vocations of life. Our remarks were the result of a strong conviction that those who wish to satisfy the ambitious young man with agriculture would do well to pursue some other course of argument than that which demonstrates the assumption that "any fool is bright enough for a farmer,"—or that the "front rank" of that profession may be attained with a very small "amount of tact, talent, energy and enterprise." To such teachings we trace the regretful remark, so often made both by parents and children, and the sense of degradation it implies, that "William" or "George" or "Joseph" "has no trade, as he always had to stay at home." After a familiar practice of perhaps thrice seven years in every branch of farming, and with every agricultural implement, the poor boy has no trade,—no "special education, training or study for his business,"—while he who drives pegs into a shoe or shoves a plane upon a board is entitled to a rank several degress above that of the "unskilled laborer."

True, Mr. "F.," the NEW ENGLAND FARMER most heartily advises the boys to stick to the farm, not because it is the place for blockheads and dunces, but because it is an appropriate and promising field for study, tact, talent, energy and enterprise; while at the same time it cautions the "professions" and all who have not "learned the trade," against engaging in farming with the belief that it is an easy thing to attain "the front rank of the tillers of the soil."

DARK SIDE OF WOOL GROWING.

A correspondent of the *Prairie Farmer* says he was induced to engage in the wool-growing business from "being taken" with the way in which the beauties and profits thereof have been presented by "Wool Grower" and other writers upon the subject, during the past six or eight years. But being "superlatively disgusted with sheep and the sheep business," he proceeds to detail his experiences and convictions in the following bill of particulars:—

I did not buy sheep at as high figures as did many other men at the same time, but I bought better ones than many others did for the same money. I believe I have fed and handled them with proper care, but the thing don't come out as I was led to expect by "Wool-Grower's" ciphering. He used to tell us that in a tolerably good sized flock a man ought not to lose over five per cent., and in a large flock not over ten per cent., in a year. I started with 1400, which, perhaps, might be called a large flock; now I have never been able to keep my losses anywhere near as low as ten per cent. I wonder if "W. G." ever kept, on paper, an account of every sheep which he lost in a year?

As a fellow-sufferer and neighbor says, "Sheep *will* die in spite of thunder." During the summer they do not go so very fast; in fact if you do not put each one down on paper the very day the carcass is discovered, you will be inclined to think, in the fall,—O, I have not lost many; perhaps a half a dozen. In the early part of winter and clear up to March, you will feel as if you were getting along swimmingly, but don't lay any flattering unction to your soul until you reach the Ides of March, the same Ides which Cæsar was to beware of. About this time, perhaps, you think it well enough to begin entering in your book, dead sheep. Like an innocent, you think, once April comes in and your flock can get a bite of grass, the mortality of sheep will cease. The next two months undeceive you terribly, and you feel as if sheep laid down and died from sheer spite.

When "lambing-time"—I believe that's the word—arrives, you are expected by all good authorities to raise 75 per cent. You are just green enough to keep a book account here again, so as to see whether you are doing what is expected of you. For awhile you feel first-rate; your book reads, so many ewes have lambed, so many lambs living; in a week or so you have to go back to your book and chalk out some of those set down as living, on account of the natural perversity of the whole sheep kind. which will persist in dying without any show of reason. Putting down, rubbing out and altering, you run your now badly speckled book up to the time when all have come and they are ready for "trimming." On finishing this job you proceed to count your pile of tails; as the pile diminishes, how your face lengthens! "Only so many!" in a mournful tone of voice; then you consult your book; book says *so* many; then you recount your pile of tails and continue glancing from book to tails until your head swims. Worse than all, you reflect, they cannot be considered raised as yet, but two or three months must elapse before weaning-time. At weaning-time you take a fresh count,—have given up book by this time—and sit down to figure your year's increase. The number of increase has to be expressed by the algebraical sign of minus before it.

But I won't particularize any farther; it is sufficient to say that in my four years' experience, I have never found anything to come out as I had been led to expect by enthusiastic wool-growers. My losses have been greater; my percentage of lambs less; my weight of clip less; the price obtained for my wool less, and I have been generally and particularly disapppointed. I have discovered, among other things, that no farm will carry as many sheep as men tell (for I forget how many "Wool-Grower" said a farm would carry) to the acre, and I have also learned that a pasture ought not to be stocked with half the number we meet with in agricultural papers. Especially is this true in dry seasons. Sheep bite so close that when a drought comes, it uses up a pasture much worse than when the same pasture is stocked with as many cattle as it ought to carry. I have about come to the conclusion that one sheep will eat, of grass, as much as two steers.

When it comes to marketing wool (and I am glad I can agree with "Wool-Grower" on one point) I have found a great drawback, not as he says, "in the manner of marketing," but in the market itself. I find that I am dependent on the mere chance that one or two buyers may come to my barn, or else on the honesty of some commission merchant to whom I may send it to sell for me. Even in the latter case, there are times when, for two or three months in succession, no buyer seeking wool enters his lofts. How is it with other crops? I can sell my wheat or my corn to a dozen buyers, right at home, *every day in the year*, or I can send it to any large market, and sell it to a thousand buyers, on every day in the year. I can sell my cattle—either stock cattle or fat cattle, and my hogs, twenty times, where I can sell my wool crop, or a flock of sheep, once. My cattle and my hogs are not turning into "culls," every two or three years, as are my sheep.

Your sheep stock is as fragile as china-ware and as perishable as strawberries. As to your wool market you are not much better off than those men who have bought high-priced Cashmere goats, the wool of which is said to be worth from eight to sixteen dollars per pound

—if one could only find the man who buys it. Some say it is worked by a factory in Edinburgh, some in Paris, but I have never found the man who could tell which.

I had been led to expect great things of the wool and woolen tariff passed last winter. I expected more from it for the reason that it went into effect immediately. We see now how much it affects the price of wool. Old sheep men tell me that I ought not to expect much from it this year, from the fact that the country was filled with woolens, previous to its passage. They say, hold on until next year and then you will see. I shall "hold on," because I have to, but I don't expect to see any benefit from the tariff, because I calculate there will be no tariff of that sort a year from now.

Next winter the free trade interest in Congress will say, "We passed this tariff last winter particularly to help the wool-grower; it has not benefited him the "first continental." Mr. McCulloch will say, just so, gentlemen, nor have I been able to get any revenue from wool or woolens.

Well, I have got sheep to sell, and so have nine-tenths of the sheep owners in Illinois. If we can sell out, or give out, or kill out, or let die out, of sheep, I suppose it will be all the better, in a year or two, for those happy wool growers who, it seems to me, keep sheep, not because they find them profitable, but because they are fascinated by, and in love with the stock.—*A. R. H., Shelby County, Ill., July*, 1867.

REMARKS.—The tariff was opposed mainly on the ground that it would prove burdensome to the consumer by raising the price of clothing, &c. We do not understand how its failure to verify these fears can add force to that argument in favor of its repeal.

TOPPING CORN.

While we have no doubt that the corn is injured by this practice, we do not hesitate to recommend it. We lose something in the weight of kernel, but gain in the fodder; and materially in managing the future harvest; it is worth while, perhaps, to go a little more particularly into the matter.

The leaves of plants perform two important functions: evaporation, which principally is effected by the lower surface, and by which the water that has been absorbed by the roots and absorbent vessels is carried off in part, leaving the residue in the form of concentrated juices;—and, second, respiration, by which carbonic acid is taken into the circulation of the plant and performs an important part in the conversion of the proper juices, and in preparing and maturing those elements which constitute the nutritious quality of the fruit. This process must of course cease when the parts which perform the office are destroyed. It would seem that such must be the effect produced by topping corn; and though the proper process may still go on by means of the few leaves that are left below the topping, yet it will be feeble and partial, the corn will ripen by evaporation merely; or rather, both the evaporation and the respiration will be diminished, to the consequent injury of the grain, which will have less of the nutritious property, and less weight; will be more liable to ferment, and to lose more in weight by the end of winter. By the process named, the proper secretions of the plant are in ripening rapidly converted into sugar; and so far as the topping checks the respiration, it would also diminish the saccharine quality and render the corn less agreeable to the taste, as well as less nutritious. But after having tried both ways, we incline to the opinion that the loss is less to top it, than to suffer the top to stand, and dry up and realize the inconvenience in harvesting.

AGRICULTURAL ITEMS.

—The regular apple-bark lice have been found upon pear trees in Illinois.

—Two correspondents of the *Boston Cultivator* say they have each milked twenty cows in an hour. One averages five minutes to each cow.

—Budding will be timely as soon as you can procure well formed buds, and the bark of the stock parts freely from the wood.

—The *Farmer's Advertiser* says that a grindstone will grind cast iron faster without water than when is is wet.

—The keeping of goats among cattle is recommended by Dr. G. M. Brown, of Cumberland, Va., as a prevention of infectious diseases.

—Farmers in Missouri contribute liberally for the establishment of manufactories in their neighborhoods.

—The State of North Carolina offers for sale all her public swamp lands, which consist of about one million and a half of acres.

—Mr. J. Farnum, Uxbridge, Mass., advises the New York Farmers' Club to apply air slacked lime to plants, when the dew is on, instead of plaster, &c., for striped bugs, rose bugs, &c.

—Col. Bainbridge who has an apple orchard in De Soto, and is one of the most extensive fruit growers in Missouri, after having been troubled much by borers has found an effectual remedy for both the apple and peach borer, which is, to make

a thick whitewash and apply to the body of the trees in June. This will keep off the miller, and is, besides, an excellent fertilizer.

—M. Comaille, of the Paris Academy of Science, tested for a year the laying capacity of three ducks and three hens, under the same conditions, with this result: hens, 257 eggs; ducks, 617 eggs.

—Treat your horse with that kindness which is characteristic in all the actions of a merciful man —no animal will appreciate it better or respond to it with more gratitude than the horse.

—In Utah the gulls are making a vigorous campaign against the grasshoppers. The Mormons say that they were once before saved from famine in the same way.

—Last year red squirrels, cut worms, and caterpillars were remarkably plenty in Maine, this year farmers are almost entirely exempt from their ravages.

—No man so well understands farming as he who has made poor land rich, and he will keep it rich. He is like one who has earned a thousand dollars.

—H. C. Farrar, of Richford, Vt., whose name is familiar to the readers of our reports of the cattle market, has sold nearly 300 cows this season to farmers in Vermont, aside from a large number of cattle which he has sent to market.

—The Maine *Farmer* announces the death of Mr. Horace McKinney, of Waldo county, an enterprising farmer, and a member of the Committee of the New England Agricultural Society on draft horses.

—A correspondent of the *Maine Farmer* says, "many a housewife may be glad to know, when she has a piece of fresh meat she wishes to keep a few days, that it can be successfully done by placing it in a dish and covering it with buttermilk. I have practiced the plan for years."

—A Milwaukee meat thief knocked in the head a fine five months old imported blooded bull calf, belonging to Wm. P. Lynde, and valued at $300, cut off the hindquarters with an axe, without skinning or otherwise dressing it, and was arrested by the police with his booty.

—A North Carolina paper says that that State ought to send $3,000,000 worth of blackberries to market. The county of Forsythe shipped $60,000 worth of the fruit last year. The blackberry grows wild in great abundance throughout the central and western parts of the State.

—In reply to a correspondent who asks, Can good wine be made from grapes grown at the North? the editor of the *American Journal of Horticulture* says, We very much doubt it. What are or have been called native wines are fixed-up stuff—grape juice and water sweetened, not wine.

—The *Utica Herald* mentions a cheese factory in Durhamville, N. Y., which is supplied with water by a wind mill, which operates to the entire satisfaction of the manager. For the purpose of avoiding all taint that might affect the cheese, no hogs are kept at this factory.

—The California *Farmer* says, that a little while since a lot of wheat was sent from California to France; it was then shipped to Liverpool, thence to New York, thence to Chicago, the Great Grand wheat Depot of the United States, and yet after all these long voyages and repeated shipments, with added costs, it paid a profit all round.

Mr. James A. Pollard, superintendent of the State Prison, at Windsor, Vt., has probably the largest hog in New England. It measures in the girt 6 feet, 4 inches. In height, 3 feet, 8½ inches. In length, 8 feet, two inches; age about sixteen months. The estimated weight is about 1000 lbs.

—An ox belonging to Mr. Daniel Tainter, of Worcester, died Saturday night. On investigating for the cause of its death, a piece of steel skirt hoop, about six inches in length, was found imbedded in the right side of the heart, and forming an abscess between the heart and the lung. The indigestible substance had been taken with its food.

—At an exhibition of meat recently held at Nancy, France, a butcher exposed a mare, twenty-seven months old, weighing 410 kilos., and a horse, thirteen years old, weighing 520 kilos.; these animal had been fattened for the table, and were covered with garlands. The members of the Acclimatization Society awarded the butcher a silver medal and fifty francs in money.

—A correspondent of the *Vermont Farmer* who recently visited the flock of Dr. H. B. Hathaway, of Milton, Vt., speaks of it as one of the best in the State, bred directly from the "pure Hammond stock." He recently sold a buck for $1500. Not satisfied with fine wool, the Dr. has laid out three trout ponds, believing fish to be cheaper and better than pork, and is now preparing a cranberry meadow.

—At a meeting of the Warsaw, (Ill.,) Hort. Society, it was stated that the birds which do most injury to fruit are the oriole, robin, thrush, catbird, jaybird and cedarbird, while blackbirds, blue birds, hempbirds, goldfinches, wrens and swallows do good. No conclusion was reached except that as birds generally destroy so many insects it was not thought safe to recommend their destruction. Perhaps the best remedy for their ravages is to have large supplies of fruit.

—Dr. Trimble stated before the New York Farmers' Club that since the introduction of the English sparrow, the canker worm in New Haven and in other places has disappeared; also that the worm has another enemy, a parasite, so small as only to be seen by the glass, that lays its minute eggs in the eggs of the canker worm. Others ascribed the decrease of the canker worm to the cold winds and rains of the past spring, which occurred after the eggs commenced hatching.

Ladies' Department.

TWO LITTLE PAIRS OF BOOTS.

BY MRS. H. S. PERRY.

Two little pairs of boots, to-night,
Before the fire are drying,
Two little pairs of tired feet
In a trundle-bed are lying;
The tracks they left upon the floor
Make me feel much like sighing.

Those little boots with copper toes!
They run the livelong day?
And oftentimes I almost wish
That they were miles away!
So tired I am to hear so oft
Their heavy tramp at play.

They walk about the new-plowed ground,
Where mud in plenty lies,
They roll it up in marbles round,
Then bake it into pies:
And then at night upon the floor
In every shape it dries.

To-day, I was disposed to scold;
But when I look, to-night,
At those little boots before the fire,
With copper toes so bright,
I think how sad my heart would be,
To put them out of sight.

For in a trunk, up stairs, I've laid
Two socks of white and blue;
If called to put those boots away,
O God, what should I do?
I mourn that there are not to-night,
Three pairs instead of two.

I mourn because I thought how nice
My neighbor 'cross the way,"
Could keep her carpets, all the year,
From getting worn and gray;
Yet well I know she'd smile to own
Some little boots to-day!

We mothers weary get and worn,
Over our load of care;
But how we speak of those little ones,
Let each of us beware;
For what would our firesides be to-night,
If no little boots were there.

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

MR. EDITOR:—I am a farmer's wife, and quite young. I, of course, take interest in anything appertaining to Household Economy. I have never seen these receipts in print.

Cookies.

Three eggs; two cups of sugar; one cup of butter; one-half cup sweet milk; one teaspoonful of soda, dissolved in the milk. Make them hard enough to roll.

Mount Pleasant Cake.

One cup butter; two cups sugar; one cup of eggs; one cup of cream, sweet or sour; one teaspoonful of soda, dissolved; four cups flour; one teaspoon cream-tartar. Bake in a moderate oven.

Cheap Cake.

One cup thick cream; one cup sugar; one egg; one teaspoon soda; spice to your taste; flour enough to make it rather thicker than griddle cakes.

Doughnuts.

Two cups new milk; half a cup sour cream; one cup sugar; one egg; one teaspoon soda.

Railroad Pudding.

One cup molasses; one cup sweet milk; one cup chopped pork; four cups flour; one teaspoon soda. Steam two hours. JOSEPHINE.

South Acworth, N. H., 1867.

REMARKS.—Brief and to the point. Our correspondent will understand that we appreciate her favor, although it has been delayed some time in appearing.

The Poor Man's Loaf.

When you boil your potatoes for dinner put in enough to make a pint when peeled and mashed As soon as they are boiled, peel and mash as fine as possible with a knife; set away till tea time, then add a pint of corn meal, rubbing it well together; then pour from the teakettle three pints of boiling water on the whole, stirring well with the spoon; let stand till cool, and then add a gill of fresh yeast and stir in flour till stiff enough to mould; continue to mould until the dough is perfectly smooth; let it set till morning, and then make out a pan of rolls for breakfast. Mould well the remainder, divide into equal parts for pans, which will make four nice loaves; as soon as the rolls are baked put the loaves into the stove and bake slowly until done. ECONOMY.

Concord, Mass., June, 1867.

Cucumber Catchup.

To three dozen good sized cucumbers add eight small onions, chop them fine; then add three-fourths of a pint fine salt; drain it twelve hours as cheese curd is drained, and then and one-half teacup best fine pepper, and one teacup unground native mustard. Stir it well, put it in a jar and cover with strong vinegar; then it is fit for use.

J. M. CASKIN.

North Chelmsford, April 1, 1867.

Imitation Cider.

I cannot vouch for its goodness, as I have never tried it.

Take four gallons soft water; four pounds best brown sugar; three ounces tartaric acid; one pint of good yeast. Have the water a little more than milk warm; put into a clean keg; add the other articles; let it stand in a warm place and work twenty-four hours; then bottle and it is fit for use.

Dudley, Mass., 1867. A FARMER'S WIFE.

REMARKS.—We say with our correspondent, "We cannot vouch for its goodness." As for ourselves, if we could not get the real juice of the apple we should give all imitations the cold shoulder. ED.

ABOUT TOMATOES.

Tomato Pudding.—Pour boiling water on tomatoes; remove the skins. Put in the bottom of the pudding-dish some bread-crumbs, then slice the tomatoes on them, season with sugar, butter, pepper and salt, add some more bread-crumbs, then the sliced tomatoes and seasoning; and if the tomato does not wet the bread-crumbs, add a little water. Then for a small pudding beat up two eggs and pour over the top. Bake about twenty minutes.

Tomato Catsup.—Take ripe tomatoes, and scald them just sufficient to allow you to take off the skin; then let them stand for a day, covered with salt; strain them thoroughly to remove the seeds; then to every two quarts add three ounces of cloves, two of black pepper, two nutmegs, and a very little Cayenne pepper, with a little salt; boil the liquor for half an hour, and then let it cool and settle; add a pint of the best cider vinegar, after which bottle it, corking and sealing it tightly. Keep it always in a cool place.

Another way.—Take one bushel of tomatoes, and boil them until they are soft; squeeze them through a fine wire sieve, and add half a gallon of vinegar, one pint and a half salt, two ounces of cloves, quarter of a pound of allspice, two ounces of Cayenne pepper, three teaspoonfuls of black pepper, five heads of garlic skinned and separated; mix together, and boil about three hours; or until reduced to about one-half; then bottle without straining.

Green Tomato Soy.—To one peck of green tomatoes, sliced thin, add one pint of salt; stand twenty-four hours; then strain and put them on the fire, with twelve raw onions, one ounce of black pepper, one ounce of allspice, quarter of a pound of ground mustard, half a pound of white mustard-seed, and a little Cayenne pepper. Cover with vinegar, and boil until as thick as jam, stirring constantly to prevent burning.

To Broil Tomatoes.—Wash and wipe the tomatoes, and put them on the gridiron over live coals, with the stem down. When that side is brown turn them and let them cook through. Put them on a hot dish and send them quickly to table, to be there seasoned to taste.

To Bake Tomatoes.—Season them with salt and pepper: flour them over, put them in a deep plate with a little butter, and bake in a stove.

Tomato Soup.—Wash, scrape, and cut small the red part of three large carrots, three heads of celery, four large onions, two large turnips; put them into a saucepan, with a teaspoonful of butter, half a pound of lean, new ham; let them stew very gently for an hour; then add three quarts of brown gravy soup and some whole black pepper, with eight or ten ripe tomatoes; let it boil an hour and a half, and pulp it through a sieve; serve it with fried bread cut in dice.

Another Way.—One quart of tomatoes after they are sliced, and three pints of water; boil one hour and a half. One tablespoonful of flour; boil a few minutes; butter the size of an egg and a coffee cup of milk. Just before you take it up, salt and pepper. The addition of a little barley is an improvement.

Tomato Wine.—Take small ripe tomatoes, pick off the stems, put them in a basket or tub, wash clean, then mash well and strain through a linen rag; (a bushel will make five gallons pure;) then add two and a half to three pounds of good brown sugar to each gallon, then put it into a cask, and let it ferment as for raspberry wine. If two gallons of water be added to each bushel of tomatoes the wine will be as good.

CANNING FRUIT.

Like many others, I tried, again, and again, to seal fruit cans so as to keep the fruit without moulding upon the top. I was particular in following the printed directions in general use, but found that my cans, when cold, would not be more than two-thirds full, and in a few days a white mould would appear upon the top. I finally applied to a friend who, I knew, canned large quantities for her own use. She showed me fruit over a year old, quite fresh, the cans full, and no mould. I at once adopted her plan, which I have since followed with great success. I have no interest in the manufacture of cans, and believe that every one should do his own advertising, but I prefer that kind in which you have only the can, glass cover and rubber to use. Fruit can be kept just as well without as with sugar; and those sealed up for pies are better without any, as they will retain their flavor far better. Brass kettles should never be used. Tin pans or kettles lined with porcelain, so as to preserve the most perfect flavor of the fruit, are the best. While my fruit is being scalded, I put a gill of cold water into each can, and fill up with hot water, putting the covers and rubber also into hot water. The fruit need not be cooked—only heated to the boiling point—unless in preparing pears or quinces, or some other hard fruits, that may require more cooking, and then only just so that a straw may be passed through, always being careful to have juice enough to cover the fruit. As soon as boiling hot, empty a can and fill; then another, or as many as can well be attended to. Let the cans stand open until you can comfortably bear the hands upon them. Meanwhile more fruit may be heated. Cut thick writing paper in round pieces the size of the top of each can, and when the contents of the cans are cooled, slip a piece over the top of the fruit in each can, and at once fill up on the top of the paper with boiling juice (saved for that purpose), and put on the covers as soon as

filled, according to the directions given. I often seal up cherries and tomatoes, only for winter use, in one-gallon stone jars that are small at the top, prepared just the same as for glass. Leave off the covers, seal with melted rosin, adding a little tallow. Try it on a piece of cloth; if too brittle, add more tallow and *vice versa*. Cut a paper also for the top of the jar, just so that it will come over the edge, and dip a piece of thick cloth into the rosin, only upon one side, spread over the jar and tie down; now with a spoon, dip and spread on the hot rosin, until entirely covered, pressing down the sides with the hands dipped in cold water. When cold, if the jar is air-tight, the cover will be depressed a quarter of an inch or more. But if it is level, then you must seal it over again. Those who can common sour cherries, will find them greatly improved by first drawing off all the juice, and then covering them with water—scald and drain off, and cover again for sealing, canning, preserving or drying.—*Farm and Fireside.*

How to Train Boys.—"E. H. Arr," in writing to the Springfield *Republican*, gives some sensible remarks in regard to training up a boy in the way he should go. She says:

"Hosts of selfish, thoughtless mothers shall send upon us another generation of listless, vapid sons, open to temptation. Years ago, a son of my own was the object of pleasant theories and plans. An unerring teacher took him hence; yet have I learned through him to look with loving eyes on other women's sons, and think what I would do for them. O mothers! hunt out the soft, tender, genial side of your boys natures. Make the most of any gentle taste or comely propensity. Encourage them to love flowers, pictures, and all the beautiful things which God has made. Talk with them, read to them, go out with them into the fields and woods, and hallow pleasant scenes with holy memories. A daily ministration to their unfurnished hungry minds, a daily touch to their unformed taste, shall make them more comely than costly garments. They will ever bear you witness in the character and conduct of your children; but your laces and embroideries will crumble to dust. Why don't mothers teach their children more, and dress them less?"

To Preserve Crab Apples.—Take off the stem and core them with a pen-knife, without cutting them open. Weigh a pound of white sugar for each pound of prepared fruit; put a teacup of water to each pound of sugar; put it over a moderate fire. When the sugar is all dissolved and hot, put the apples in; let them boil gently until they are clear, then skim them out and place them on flat dishes. Boil the syrup until it is thick; put the fruit in whatever it is to be kept, in and when the syrup is cooled and settled, pour it carefully over the fruit. Slices of lemon boiled with the fruit may be considered an improvement; one lemon is enough for several pounds of fruit. Crab apples may be preserved whole, with only half an inch of the stem on; three-quarters of a pound of sugar for each pound of fruit.

Cost of Cashmere Shawls.—The best Cashmere shawls, the long shawls with plain ground, crimson, purple, blue, green, or yellow—green are best—never cost less than £135 a pair, and are never sold singly. The next kind, or square shawls, much more frequently imported into Europe, are either loom-worked or needle-worked, needle-worked being the more original, and they cost from £30 to £50 in the Punjaub, without freight or interest or profit to the importer—little facts which we commend to the attention of women who think they can buy the best Cashmere at £15 or even £10 a shawl. What they do buy is either an imitation which never was in India at all, or a Delhi shawl, very good in its way, but no more approaching a Cashmere shawl in beauty than in durability. A man might lie on heather in a black Cashmere for twenty years, and it would be as perfect as on the first day, while every imitation whatsoever will die out.—*English Paper.*